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FEATURE PACKAGE

Tablets In The Enterprise



What future, if any, do tablet PCs have in your enterprise? We rounded up some advice from industry insiders to help guide your planning.

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PHYSICAL INFRASTRUCTURE

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NETWORKING & VPN

A server or other piece of system equipment must show that it's ready and able to **take on the workload it's given** and can grow as your company grows. When it comes to mission-critical data center systems, then, testing now can prevent headaches laterpage 22

Monitoring user activity has never been a simple task. But as more workers telecommute and use smartphones, tablets, or other mobile devices to get the job done, keeping an eye on what they're doing and how they're doing it becomes more challenging all the timepage 23

PUE Explained

New Guidance Helps Data Centers Improve Their Infrastructures' Energy Efficiency

by Cynthia Harvey

IN A TYPICAL DATA CENTER, a huge portion of the operating budget pays for energy costs, and much of that energy is consumed by the cooling, lighting, and other physical infrastructure for the building. In fact, according to the EPA, the average data center consumes about as much energy for cooling and support as it does powering the IT equipment.

In recent years, data center managers have become increasingly aware of these infrastructure energy costs and have stepped up their efforts to reduce energy use. In order to measure the effectiveness of their efforts, they began using a metric called power usage effectiveness, or PUE. First proposed by The Green Grid about four years ago, PUE helps enterprises measure how much of their total energy use is going to their IT systems. However, different data center managers have been calculating PUE in different ways, leading to a great deal of confusion.

In order to eliminate much of that confusion, a group of industry leaders and government organizations formed the Data Center Metrics Coordination Taskforce



to hammer out the details of how to calculate PUE. In May of this year, the group published "Recommendations for Measuring and Reporting Overall Data Center Efficiency: Version 2 – Measuring PUE for Data Centers."

This report gives data center managers the guidance they need to measure and compare their infrastructure energy usage.

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Key Points

- Power usage effectiveness, or PUE, measures how much of the energy in a data center is used by the IT equipment compared to how much is used for cooling, lighting, and other infrastructure needs.
- Enterprises should calculate their PUE in order to measure their efforts to become more energy-efficient and lower their energy costs.
- The Data Center Metrics Coordination Taskforce has recently published new recommendations that clarify and standardize PUE calculation.

The Latest Security Threats

Close The Security Holes In Email & Applications

by Jean Thilmany

RARELY A WEEK GOES BY that we don't hear about some major security threat or attack on the enterprise level. Although staying on top of those threats is a never-ending battle, IT managers can be ready for—and fend off—new security threats.

Here's a look at several new security threats facing enterprises and ways you can deflect these attacks.

Mobile Threat

As enterprises and consumers embrace tablets and smartphones, employees are increasingly bringing their own devices

to work. But now that employees are using their own smartphones and tablets rather than those the enterprise provides, IT departments must manage enterprise information stored on private mobile devices, says Ken Singer, CEO and founder of AppCentral (www.appcentral.com).

Rather than managing the devices themselves, IT can remotely manage only the applications on the devices. Beware that employee resistance to device management on their phones or tablets will come, he says.

He suggests software that can be used at the enterprise level to monitor applications installed for enterprise use on the employee's

Go to Page 8

Key Points

- Even the way emails are encrypted for security purposes is changing.
- Newer solutions on the market can let IT managers see who is accessing cloud systems and enterprise applications.
- Don't forget about employee mobile devices and making sure information is secure on them.

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News

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In-house app stores let end users provision their own applications without help desk requests, long waits, and direct IT involvementpage 35

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Colocation providers seem to be located almost anywhere, so how can you know what locale is most ideal for your organization?.....page 38

DATA CENTER MANAGEMENT

Traditional areas of **skill sets and expertise** may be less useful in the cloud landscape, and savvy professionals will augment their skills to remain currentpage 39

Product Spotlight: Data Center/IT Training ..page 40

Buying refurbished equipment can result in significant cost savings, but there are factors to be aware of before you go **shopping for used gear**, and chief among them is the vendor from whom you will be buying your equipmentpage 43

The Processor.com home page is frequently updated with new articles and hardware news to help you keep current.

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Gartner Predicts Rise In BPM Spending

Gartner expects that spending on BPM (business process management) projects will increase in 2011. Specifically, 54% of respondents to a recent survey plan on an increase of 5% or more in BPM spending, and almost 20% of those surveyed expect a spending increase of more than 10%. The Asia/Pacific region expects the strongest change in BPM spending, where 25% of respondents forecast growth that will likely exceed 10%. In 66% of cases, the budget for the BPM project funding came from the business budget, rather than the company's IT budget. The most common initial investment amount was between \$100,000 and \$200,000.

SaaS Revenue To Make Significant Gains, Gartner Says

Worldwide SaaS revenue for 2011 will increase 20.7% from last year's numbers, according to forecast reports from Gartner. The research firm also expects that revenues from SaaS-based delivery will more than double last year's totals, climbing from \$10 billion in 2010 to \$21.3 billion in 2015. The report notes that there are fewer concerns about security, response time, and service availability with SaaS than there have been in the past. The evolution of on-demand services has also helped to spur businesses to move to SaaS. CRM is the largest market for SaaS, and Gartner expects CRM revenue to reach \$3.8 billion this year, up from \$3.2 billion last year.

Extreme Networks Announces Further Workforce Reductions

In a cost-cutting move, Extreme Networks has decided to cut 16% of its global workforce, amounting to about 110 jobs. This marks the third wave of cuts for the company; in October

2009, it cut 9% of its workforce, and in January 2011, it let go another 5% of its employees. Extreme is hoping to cut \$20 million in operating costs during its new fiscal year with the move. The changes are part of an ongoing corporate restructuring at Extreme under the leadership of new CEO Oscar Rodriguez, who took charge last August. All areas of the company will be affected, with the lone exception of R&D, an area where the company will be placing increasing emphasis.

N.Y. Telco Buys Alteva

Warwick Valley Telephone Company has agreed to acquire cloud-based unified communications provider Alteva of Philadelphia. The deal is expected to be finalized in the third quarter of this year and will involve \$11 million in cash, \$4 million of common stock,



and \$2 million in performance-based payments to be transferred over the next year and a half. Alteva is known for its enterprise VoIP service as well as for its hosted UC offerings. Warwick Valley is a competitive local exchange carrier that serves parts of New York State and New Jersey.

IDC Reports 2.6% Rise In Global PC Shipments ...

Global PC shipments rose 2.6% in Q2 2011, falling just shy of the 2.9% projection that IDC made in May. IDC says the figures are the result of a "hangover from the more than 20% growth in the first half of 2010," combined with competition from smartphones and other consumer products and still lackluster economic conditions. "Nevertheless, product refreshes and promotions in the second half of the year as well as easier year-ago data should boost growth in the second half of the year," says IDC senior research analyst Jay Chou. IDC's figures show that the United States market continued to contract during the second quarter but that the last half of the year should produce a better market environment. The United States, which declined 4.2% year-over-year, and Western Europe were among the weaker regions, IDC says, while Latin America and Asia/Pacific (excluding Japan) represented emerging markets. Vendor-wise, HP saw 3% growth for Q2 2011 vs. Q2 2010 and continues to lead all global manufacturers with an 18.1% share. Dell sits second (12.9%) but is being challenged by Lenovo (12.2%), which moved past Acer (10.9%) to become the world's No. 3 vendor. IDC says Lenovo benefited from its channel expansion in markets outside of Asia/Pacific, including notable gains in the United States and Japan. Asus (5.3%) passed Toshiba to take the No. 5 vendor spot.

WATCH THE STOCKS

This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company	Symbol	Year Ago	July 7 \$	July 21 \$	% change from previous issue
AMD	AMD	\$7.61	\$7.15	\$6.50	▼ 9.09%
Apple	AAPL	\$259.02	\$357.20	\$387.29	▲ 8.42%
CA Technologies	CA	\$19.10	\$23.42	\$22.64	▼ 3.33%
Cisco Systems	CSCO	\$23.27	\$15.90	\$16.35	▲ 2.83%
Dell	DELL	\$13.40	\$17.15	\$17.11	▼ 0.23%
Google	GOOG	\$484.81	\$546.60	\$606.99	▲ 11.05%
HP	HPQ	\$46.07	\$36.45	\$36.23	▼ 0.6%
IBM	IBM	\$127.47	\$176.48	\$184.90	▲ 4.77%
Intel	INTC	\$21.78	\$23.23	\$22.81	▼ 1.81%
LinkedIn	LNUK	N/A	\$93.98	\$101.69	▲ 8.2%
Microsoft	MSFT	\$25.84	\$26.77	\$27.09	▲ 1.2%
Oracle	ORCL	\$24.31	\$34.09	\$32.47	▼ 4.75%
Red Hat Software	RHT	\$32.34	\$46.67	\$43.82	▼ 6.11%
Symantec	SYMC	\$15.19	\$19.86	\$19.02	▼ 4.23%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

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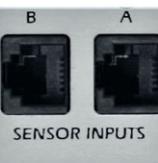
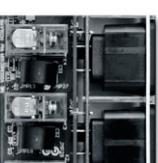
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Spending Like There's No Tomorrow?

Companies across the board are planning to make significant investments in IT this year, according to two recent studies by research firm IDC. Cautious optimism and pent-up demand are likely two of the biggest causes for the uptick at both the small business and enterprise levels.

Among U.S. enterprises and public sector organizations, IDC expects

IT spending to increase 5.6% this year.

For comparison's sake, IDC points out, the U.S. Gross Domestic Product is expected to grow 3% this year.

The top priorities among large enterprises are:

- Security (ranked as top by 31% of respondents surveyed)
- Business analytics (19%)
- Smart technologies (17%)

IDC predicts that spending among small and midsized businesses will

grow 4% this year to \$125 billion.

After a long period of declines, this will mark the second year of increased spending, IDC notes.

Other notable stats from the IDC research on SMB spending show that:

- Mobility, PCs, and networking are driving the expected growth in IT spending.
- Notebooks will surpass desktops.
- Tablets are still the wild card, with high interest but somewhat slower adoption.
- Server-based LANs are becoming increasingly common.

31%

Security

17%

Smart technologies

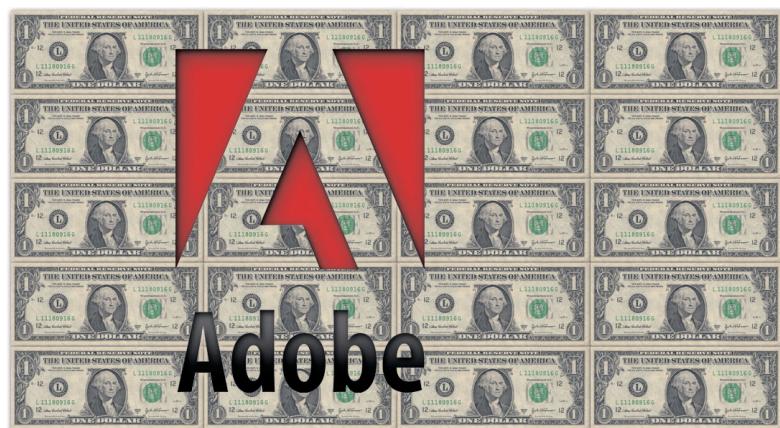
19%

Business analytics

Chance
BUY A
Tablet

I . . . While Gartner Says PC Sales Are Up 2.3%

Global PC shipments topped 85.2 million units for Q2 2011, according to preliminary Gartner results, representing a 2.3% increase from Q2 2010. The totals fall below the 6.7% increase Gartner had projected. "After strong growth in shipments of consumer PCs for four years, driven by strong demand for mini-notebooks and low-priced consumer notebooks, the market is shifting to modest, but steady growth," said Gartner analyst Mikako Kitagawa in a statement. Additionally, Kitagawa said, "Vendors' performances have become variable, as they have had to deal with significant inventory buildup, changes to their product mix, and the fact that growth



has been coming mostly from emerging markets." Kitagawa added that vendors are shifting resources from mature consumer markets and investing in tablets. Among vendors, HP claimed a 17.5% worldwide market share for the quarter and saw solid growth in the professional PC market, Gartner says. Dell (12.5%), Lenovo (12%), Acer (10.9%), Asus (5.2%), and Toshiba (5.2%) followed. Gartner's totals include desktop PCs and notebooks (including mini-notebooks) but not tablets. Gartner says that Dell's second-place position represents the first time it has held that position since Q4 2008. Lenovo showed the strongest growth for the quarter, with shipments increasing 22.5%. Acer fell from second to fourth position.

I Intel To Buy Networking Chip Firm

Fulcrum Microsystems of Calabasas, Calif., will become the latest acquisition in Intel's portfolio. The fabless semiconductor company designs high-performance Ethernet switching silicon for the data center, enterprise, and service provider markets. Specifically, Intel likes Fulcrum's integrated 40Gbps and 10Gbps Ethernet products with low latency, workload balancing, and high throughput, which should complement the company's Xeon processors in cloud computing applications going forward. Intel didn't disclose the terms of the deal, but it did indicate that it should close at some point in the third quarter.

I Smartphone Adoption Survey

The Pew Internet Project recently conducted its first standalone survey of smartphone ownership, which found that 35% of all American adults own smartphones. Of all U.S. adults, 83% have a cell phone, and more than half of those are smartphones. The firm also reports that 33% of cell phone owners say their phone is a smartphone. Pew found that 87% of smartphone users use their devices to access the Web and email, and 68% say they do so on a daily basis. A quarter of the survey respondents say they primarily use their smartphones to access the Internet rather than their computers.

I Study: Consumerization Is On The Rise, Whether Enterprises Are Ready Or Not

A new IDC survey sponsored by Unisys reveals that most enterprise IT departments are still unsure how to handle the growing trend of employees accessing company assets and

networks using consumer electronics devices, 40% of which are personally owned, the survey shows. IDC's survey, which follows up on a similar survey conducted last year, found that the consumerization trend is being driven by a desire for mobility, with 53% of respondents saying that mobile devices such as smartphones, laptops, and tablets are the most critical devices they have when it comes to doing work; last year, 44% said the same. Additionally, the use of social networking and other online services (such as wikis, blogs, and forums) for business purposes is on the rise. The survey highlights a need for IT to be proactive in handling the transition to mobile devices, but an overwhelming number of security concerns and support issues and a growing workload were listed as top reasons IT personnel's

hands are tied when it comes to the consumerization trend.

I Adobe Buys EchoSign

In an effort to add electronic signature capabilities to its portfolio, Adobe will acquire EchoSign, which specializes in signature automation. The EchoSign technology is said to help reduce the complexity of Adobe's document exchange service by automating the process of gaining a signature for any purpose, such as sending, signing, and tracking a digitally signed document. Adobe programs likely to incorporate EchoSign software include CreatePDF, SendNow, and FormsCentral. Purchase details of the acquisition were not released; however, Adobe says it will keep the founders and all full-time EchoSign employees as part of the Adobe team.

I Check Point Names New President, Reports Q2 Results

Check Point Software has reported a 15% revenue increase over last year, generating \$301 million compared to \$261 million in Q2 2010. Profits also rose, jumping 23% from \$122 million to \$150 million. A statement from the company attributed much of the growth to the popularity of the company's software blades, noting that "customers are adopting more software blades to enhance their threat protection and raise the level of security in their organization." In concert with the earnings data, the company has announced the promotion of Amnon Bar-Lev to president. Bar-Lev, previously the company's channel chief, will report to Gil Shwed, Check Point founder and CEO.

I Apple Reports "Best Quarter Ever"

Apple recently announced its Q3 financial results, reporting that the company posted record quarterly revenue of \$28.57 billion (up from \$15.7 billion last year) and a record quarterly net profit of \$7.31 billion (up from \$3.25 billion). Some 62% of that quarterly revenue came from international sales. During Q3, the company sold 20.34 million iPhones, representing 142% unit growth over the year-ago quarter, and 9.25 million iPads, a 183% unit increase. Over the same period, Apple sold 3.95 million Macintosh computers, a 14% percent unit increase. The company's sales of 7.54 million iPods, however, represented a 20% percent unit decline from the year-ago quarter, possibly reflecting the slow erosion of that device's popularity in the face of increased iPhone sales.

Cisco To Cut 6,500 Jobs

Cisco announced that it will eliminate 6,500 jobs, or about 9% of its workforce, to cut costs. About 2,100 of those employees took part in an early-retirement program that Cisco announced in April. Cisco, which employs about 73,000 people worldwide, also says the cuts include 15% of employees with positions of vice president or above. Those losing their jobs will be notified in the first week of August, Cisco says. Severance packages and termination benefits will cost the company about \$1.3 billion over the next few quarters. The layoffs are part of Cisco's ongoing efforts to reduce its annual operating expenses by \$1 billion and to focus its business on the core areas of switching and routing.

Dell To Acquire Force10 Networks

Dell announced its plans to purchase Force10 Networks, a manufacturer of data center switches, for an as-yet-unreported amount. Dell has been working hard recently to increase its strength in data center products. According to reports, Dell was first considering purchasing Brocade before instead deciding on Force10 based on the strength of its Ethernet technologies. Force10 and Dell have been working together for years on the sales and marketing side of their businesses, but it wasn't until only recently that Dell expressed interest in acquiring the company.

Nokia Sees Loss After Sharp Drop In Smartphone Sales

Nokia released its second quarter results for 2011, reporting a 7% loss in net sales and a 32% decrease in the overall value of its smartphone division. Net sales were €9.275 billion, and the smartphone division is now valued at €2.37 billion. Nokia also had an operating

loss of €487 million. In the same time period last year, Nokia posted a profit of €295 million. A bright point in Nokia's results came from its partnership with Siemens, where sales increased by 20%.

Yahoo! Posts Q2 Earnings, Revenue Decrease

Yahoo!'s second quarter revenues have suffered due to the company's struggle to maintain success as a leader in the display advertising market. Competition has been fierce from Facebook and Google, both of which have made great gains in the display ad market. Revenue totals were \$1.07 billion, compared to \$1.11 billion in the second quarter of 2010. Yahoo! blames the decrease in net revenue on the search agreement it made with Microsoft; however, the decrease could also be due to an internal reorganization of the sales team. Yahoo! isn't all in the red, though—the company increased net income by 11%, while net earnings jumped by 18%.

Former Microsoft Exec Moves To EMC

EMC has confirmed that Amitabh Srivastava, formerly

the senior vice president of Microsoft's cloud computing business, is now the president of EMC's Advanced Storage Division. EMC is part owner of VMware, which is one of Microsoft's top competitors in the virtualization market. Srivastava announced his departure in December of last year when he didn't receive an offer from Microsoft to be the new president of its Server and Tools division; he officially left Microsoft in March of this year.

Srivastava was a key player in rolling out the Windows Azure cloud computing platform and had a 13-year career at Microsoft.

Cloud Standards Customer Council

In an effort to enact better cloud standards, the Cloud Standards Customer Council has announced the publication of a library of cloud use cases, the election of a steering committee, and the formation of several working groups. Members of the steering committee, led by Lockheed Martin's Melvin Greer, include AGEECC, CloudOne, Cutter Consortium, IBM, Itron, Kaavo, Servoy, Software AG, SurePass, Symantec, and Wohl Associates. The committee-approved working groups include a Practical Guide to Cloud Computing; service model working groups for IaaS, PaaS, and SaaS; Interoperability in the Cloud; Cloud Reference Architecture; and Business Patterns for the Cloud, among others. The first use case submissions have already been made available to the public online.

Unix Still Prominent In Data Centers

According to a study by Gabriel Consulting Group concerning Unix vendor preferences for late 2010 and early 2011, most data centers (78%) are actively using Unix. Just under a third (30%) of respondents manage 250 or more Unix servers, and more than half (52%) handle 50 or more. Less than half (48%) manage fewer than 50 Unix servers. Of the major Unix brands, 45% of respondents are using three or more while another third (33%) are using two. The survey was conducted with respondents from companies of a variety of sizes, from fewer than 1,000 employees (34% of respondents) to 1,000 to 10,000 employees (22%) to 10,000+ employees (44%).



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PRODUCT RELEASES

The Processor Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up to date with what's new on the market and to find products you need.

Manufacturers:
Do you have a new product that data center/IT managers would be interested in learning about?
Send your press release or product information to press@processor.com.

PHYSICAL INFRASTRUCTURE

■ **Raritan Dominion KX II**

With the Raritan Dominion KX II, you can now use your tablet or smartphone to manage remote systems via mobile KVM over IP. You'll get clientless, BIOS-level access to servers being managed by Raritan's Dominion KX II release 2.4 and CommandCenter-Secure Gateway release 5.2. The new mobile access feature doesn't require a KVM client or application, making remote access simple.

NETWORKING & VPN

■ **BMC Application Performance Management Portfolio**

BMC announced the availability of an APM (application performance management) product portfolio intended to simplify the management of enterprise, SaaS, and cloud applications through a single operations management framework to help companies address APM requirements. The suite includes BMC End User Experience Management, BMC Proactive-Net Performance Management, BMC Middleware Management - Transaction Monitoring, and BMC Application Problem Resolution capabilities.

■ **Bomgar 11.1**

Bomgar has released version 11.1 of its flagship product, which it says offers new capabilities designed to increase productivity and extend support to and from mobile devices. Bomgar 11.1 is aimed at enabling IT organizations to deliver support to nearly any system or device, optimizing IT operations with new analytics, and streamlining integrations with help desk and CRM solutions. The new version also offers new compliance features and safeguards and introduces Jump Client Scalability, a feature the company says is designed to improve IT organizations' ability to support unattended systems, such as servers, kiosks, and PoS systems.

■ **Cisco Catalyst 6500**

Cisco has announced a bevy of improvements to its Catalyst 6500 series switches. Among them are seamless IPv4 and IPv6 support from the switch's hardware platform, new network virtualization capabilities, a comprehensive set of L4-7 integrated services modules, and new application performance and visibility monitoring through a completely revamped implementation of NetFlow.

■ **Dell KACE M300 Asset Management Appliance**

Dell KACE announced the release of a line of systems management products intended to provide small businesses with simple, cost-effective, and reliable solutions for routine IT tasks such as inventory, license compliance, and asset tracking. The appliance provides increased visibility into the network, enabling staff to proactively address configuration issues before they undermine security.

■ **Ensim Unify Cloud Manager**

Ensim has released Unify Cloud Manager, which the company says lets service providers use all the functionality of the carrier-grade Ensim Unify platform to enable resellers and organizations to securely offer various cloud services. The centralized platform can manage the creation, activation, configuration, and

administration of cloud services and includes multitenant enablement, automated provisioning, fine-grain privilege management, and delegated administration.

■ **Ericom Software AccessNow**

Ericom Software announced the availability of AccessNow, the company's latest HTML5 RDP client. AccessNow gives browser-based access to applications and desktops running on Windows Terminal Services/RDS as well as VDI platforms on Microsoft Hyper-V, VMware, and other hypervisors. The software runs within any browser with HTML5 and WebSockets support. Java, Flash, Silverlight, and other underlying technologies aren't required.

■ **Lancope StealthWatch FlowCollector 4000**

This new flow collector is one of the fastest available, says manufacturer Lancope. With a flow data monitoring capacity of 120,000 flows per second for each collector, the StealthWatch FlowCollector 4000 provides an incisive view into network operation. It's also scalable to 3 million flows per second and 4TB of storage space. When connected to a switch designed to export flow data, the StealthWatch FlowCollector 4000 supplies actionable intelligence for timely network management and security in this era of mobility, video streaming, cloud computing, and IT consumerization.

■ **Silver Peak Systems Virtual Acceleration Open Architecture**

Silver Peak Systems has announced its VXOA (Virtual Acceleration Open Architecture), which is a combination of software and pricing options that enable customers, partners, and service providers to conveniently deploy WAN optimization. VXOA utilizes the underlying software that powers the entire family of Silver Peak NX, VX, and VRX WAN optimization products, and it introduces a new software development kit, an application programming interface, and new pricing options to facilitate WAN optimization

deployments on a variety of industry-standard hardware platforms and hypervisors. The result is a flexible and highly customizable solution for widespread WAN optimization deployments.

■ **SolarWinds Log & Event Manager**

SolarWinds has released Log & Event Manager, which is based on technology the company obtained through its recent acquisition of TriGeo Network Security. The release starts at about \$4,495 for 30 nodes with one year of maintenance included and supports proactive log analysis, real-time event correlation, ad-hoc IT search, and active response and threat mitigation.

STORAGE

■ **Addonics 1:11 HDD Duplicator**

Many of IT's de facto delays involve waiting on a hard drive. Addonics is doing its part to speed up duplication tasks with this 1:11, SATA/IDE, 3.5/2.5-inch drive replicator. Models range from \$1,399 to \$1,599 with optional 256-bit AES encryption and data shredding. The units are standalone, so they don't require a computer or complex software.

■ **Atempo Live Navigator**

Atempo has made available the Atempo Live Navigator for source-based block-level deduplication. Designed to integrate with Atempo Time Navigator, Atempo Live Navigator features a centralized IT management console, near-continuous data protection technology, reduced volume data transferring, and self-serve file recovery.

■ **CloudBerry Lab CloudBerry Backup 2.2**

The latest version of CloudBerry Lab's CloudBerry Backup lets you back up your data to a cloud storage account from Microsoft (Windows Azure), Amazon (S3), or Google (Google Storage). What's more, CloudBerry Backup 2.2 lets you mount an online storage account as a local volume for the utmost in convenience. That means you can access cloud storage

using a variety of existing tools, including Windows Explorer. Future versions of the program will let you write data to a virtual disk just as you would to any other disks in the system.

■ **EMC Symmetrix VMAXe**

EMC announced Symmetrix VMAXe, a storage system designed to help IT organizations move toward the cloud. Intended for virtualized cloud and mission-critical IT environments, Symmetrix VMAXe features a new hardware design, fast provisioning, replication capabilities, and simplified management. By combining the Virtual Matrix Architecture with Intel multicore processor-based Engine design, Symmetrix VMAXe is able to scale up to four Engines and 960 disk- or flash-based drives. EMC Virtual Provisioning allows users to provision in minutes, and integration with EMC's RecoverPoint replication software enables continuous data protection and local and remote replication.

■ **Sans Digital MobileSTOR MS28X & MS28XP Storage**

Sans Digital released its MobileSTOR MS28X and MS28XP, which are 8-bay tower JBOD and RAID storage systems that support 2.5-inch SATA, SAS, or SSD hard drives. The MS28X and MS28XP both feature two mini-SAS ports, but the latter unit also features an RR2722 6G PCI-E 2.0 x8 RAID controller card.

SECURITY

■ **HP WebInspect Real-Time**

HP announced WebInspect Real-Time, an application security testing tool. Based on HP WebInspect 9.1, the solution uses real-time application code running in the browser to discover vulnerabilities. WebInspect Real-Time is designed to help users find more vulnerabilities, develop a better understanding of vulnerabilities, and address security issues in a more timely manner.

■ **Symantec Web Gateway 5.0**

Symantec has unveiled Web Gateway 5.0 for user protection against malware. Primary features include Symantec Insight cloud-based threat blocking, Symantec Data Loss Prevention compatibility, improved IT management, greater availability (standalone or as part of Symantec Protection Suite Enterprise Edition), and integration with the Symantec Security Framework.

■ **Trend Micro Mobile Security 7**

Trend Micro Mobile Security 7 enables organizations and employees to realize the increased productivity of the consumerization of IT by mitigating security, data protection, and device management risks. Key features of Mobile Security 7 include centralized console management; enrollment, provisioning, and de-provisioning for network and application access; and remote wipe capabilities.

■ **Trend Micro SecureCloud**

Trend Micro released a new version of SecureCloud, which has expanded with an offering designed for cloud service providers, as well as encryption support for VMware vSphere environments. Service providers can now use SecureCloud to implement an efficient and easy-to-use encryption service that helps keep sensitive data private and helps businesses meet their compliance requirements.

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PRODUCT RELEASES

MESSAGING & TELEPHONY

■ **Berkeley Varitronics System BVS Squid M2M 3G Cell Tower Tester**

The new Squid M2M 3G Cell Tower Tester handheld receiver is now available from Berkeley Varitronics Systems. Targeted toward M2M installers, it lists local carrier networks by 3G band type and Received Signal Strength Indicator on an OLED screen, providing for optimal antenna placement. It's GPS-capable, and its precision beats counting signal bars on consumer cellphones, BVS says.

■ **Cisco Enterprise Content Delivery System**

Cisco has announced the Cisco ECDS (Enterprise Content Delivery System), a set of video distribution products that work together to address IT leaders' growing challenge of delivering the highest-quality live and on-demand video content to end users anywhere, anytime. ECDS consists of hardware appliances and Cisco WAAS (Wide Area Application Services) virtual blade software.

■ **Polycom CX7000 Unified Collaboration System**

Polycom has announced the release of its CX7000 Unified Collaboration System for Microsoft Lync. The plug-and-play video telepresence solution supports IM, online meetings, and content collaboration in real time. The CX7000 Unified Collaboration System is part of Polycom's CX device lineup and is compatible with Microsoft Office 365 cloud offering through Lync Online.

CLIENTS

■ **EMS Technologies LXE Marathon**

EMS Technologies has announced the availability of its LXE Marathon field computer. The computer is designed for rugged conditions and runs full Windows XP. It offers multiple data input options and is suitable for warehouse, intermodal facility, manufacturing, quality control, rental inspection, industrial field, and other related uses. The system includes an Intel Atom processor and 7-inch outdoor-viewable touchscreen display.

■ **Flexera Software Workflow Manager For Enterprise License Optimization**

Flexera Software announced Workflow Manager for Enterprise License Optimization, a tool designed to automate and enforce best-practice business processes for software license management. Part of the Flexera Manager Suite for Enterprises, Workflow Manager features customizable workflow templates, issue management and escalation, dynamic email notifications, and a management dashboard with reports.

■ **HP LaserJet Pro 100 M175nw Color MFP**

HP introduced the latest color multifunction printer ideally suited to the demands of small and medium-sized business. The HP LaserJet Pro 100 M175nw is the smallest color multifunction laser printer that HP offers. Aside from print, copy, and scanning capabilities, the new MFP also features the energy-saving HP Auto-Off, Instant-on Technology, and the option to network it using wired Ethernet or wireless. Other features include HP ePrint, which lets users print from anywhere using a smartphone, notebook, or other mobile device.

The HP LaserJet Pro 100 color MFP M175nw is currently available starting at \$349.

■ **Oracle Virtual Desktop Client App For iPad**

Oracle released a Virtual Desktop Client App for iPad. It provides users with secure access to virtual desktops managed by Oracle's Sun Ray Software and Oracle Virtual Desktop Infrastructure. The Virtual Desktop Client App supports a range of enterprise applications, including network-intensive applications and those requiring full desktop browsers.

■ **Oracle Virtual Desktop Infrastructure 3.3**

Oracle enhanced its Virtual Desktop Infrastructure in version 3.3, which includes an improved administration portal with role-based access control and introduces Oracle Linux as a supported host platform. Oracle Virtual Desktop Infrastructure 3.3 has a simplified installation that provides a streamlined installer allowing for installation of components from one download and user interface.

■ **Sage ERP MAS 90 Online, SalesLogix Cloud & Connected Services**

Sage has announced several products designed to enhance business operations.

The new offerings include the Sage ERP MAS 90 Online, which provides new integrated business applications; Sage SalesLogix Cloud, which is designed for analyzing external sources; and Connected Services for employee recruiting, employee retirement, and sales tax calculation, which pair with Cyber Recruiter for Sage Abra and Sage Retirement Services.

■ **SAP Sales OnDemand**

SAP has released SAP Sales OnDemand, a user-oriented solution that can be combined with Microsoft Outlook. Social collaboration features keep sales representatives connected to their network of clients. Sales representatives can manage workflow with provided real-time information updates. SAP Sales OnDemand supports mobile devices such as BlackBerrys, iPhones, and iPads to allow for an in-the-moment sales experience. Users will be able to take advantage of the incorporated SAP Business Suite software to modify sales tactics within business teams. SAP Sales OnDemand availability and pricing is based on named users, and options are augmented by SAP ERP add-ins, mobile applications, and analytics.

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PUE Explained

Continued from Page 1

What Is PUE?

The basic formula for calculating PUE is very simple: PUE = total energy divided by IT energy. In theory, the best possible PUE score would be 1.0, which would mean that all of the energy coming into a data center is being consumed by IT systems. Higher numbers mean that the data center infrastructure is less efficient.

Paul A. Mathew, Ph.D., a staff scientist at Lawrence Berkeley National Laboratory and a member of the taskforce, says that the best data centers achieve a PUE around 1.1. "A general good practice is 1.2 to 1.3," he says. "If you're down to 1.2 to 1.3, you're probably pretty good. If you're 1.8 to 1.9, you're average. And if you're above that, well, you can clearly improve a lot."

The new recommendations describe four different categories of PUE, which differ according to where the IT energy is measured (UPS output, PDU output, or IT equipment input), the definition of IT energy (peak electric demand or IT annual energy), and the definition of total energy (peak electric demand or total annual energy). The taskforce advises data centers reporting their PUE to specify which category of measurement they used to perform their calculations.

Why Measure PUE?

According to Mathew, data centers should measure PUE "because you want to understand the efficiency of your data center and the potential to reduce your electricity or energy costs in the data center."

"Data centers have two incentives to lower their PUE," adds Dan Azevedo, board member of The Green Grid and director of data center architecture strategy and innovation at Symantec. "First, if you're driving your PUE to a lower number, you're saving money. Second, it also results in operational efficiencies, because you probably also have less maintenance and other overhead."

In addition, managers who run more than one data center can use PUE to compare different facilities. In fact, international organizations have agreed to these new guidelines (see the "A Global Metric" sidebar), meaning that enterprises with data centers in different parts of the world can use them to compare energy efficiency across regions.

Jon Haas, board member and technical committee chairman of The Green Grid, says that PUE "has changed the way people are building data centers. When it first started, average PUE was around 3. Now the average is 2, and larger data centers are approaching 1."

Why The New Guidance?

The Data Center Metrics Coordination Taskforce published version 1 of its PUE recommendations in July 2010. But Azevedo notes that version 2 "didn't change PUE. It further refined it." He notes that the first memo was at a very high level, while the second document provided more detail.

Specifically, Mathew explains that "version 1 was really specific to standalone data centers, and version 2 addresses buildings that are mixed-use buildings, as well."

In addition, version 2 provides average source energy weighting factors, which allow for the equitable comparison of data centers in different parts of the world, and IT source energy conversion factors for data centers that generate some of their own energy. The report also touches on energy reuse, and Haas notes that the group defined the terms to clear up any confusion.

What's Next?

The release of this document marks the end of the committee's work on PUE. However, both U.S. and global taskforces are working on standardizing other data center metrics.

"It's important to realize the limitations of PUE," Mathew says. "PUE is only looking

at a measure of the efficiency of your infrastructure side, not your IT side. The other kinds of metrics to address IT efficiency are things like total energy per computation, for example."

Azevedo says that the global taskforce plans to standardize metrics that measure IT work output compared to expected energy consumption, as well as metrics that measure carbon emissions and reuse of energy. "The intention is to look at things from a holistic perspective because a data center has many dimensions," he says. Although PUE is a valuable metric, he cautions, "Don't only focus on one thing and design just for that. Take it all into consideration and make informed decisions that align with the business' strategic objectives." P

A Global Metric

Two different groups have been working on standardizing PUE. The U.S. group, known as the Data Center Metrics Coordination Taskforce, includes representatives from the 7x24 Exchange, ASHRAE, The Green Grid, Silicon Valley Leadership Group, U.S. Department of Energy's Save Energy Now and Federal Energy Management Programs, U.S. Environmental Protection Agency's Energy Star Program, U.S. Green Building Council, and Uptime Institute.

The second group, the Harmonizing Global Metrics for Data Center Energy Efficiency task force, also includes representatives from Japan's Ministry of Economy, Trade, and Industry; the Green IT Promotional Council; and The European Commission Joint Research Center Data Centers Code of Conduct.

According to Dan Azevedo, board member of The Green Grid and director of data center architecture strategy and innovation at Symantec, "There was a recognition that folks in the Americas, the folks in EMEA, [and] the folks in Japan were all working on the same kind of activities." The new PUE recommendations harmonize the standards used in different parts of the world, making it possible to compare energy efficiency for data centers in different regions.

The Latest Security Threats

Continued from Page 1

mobile device. The software can delete data stored inside the applications.

"This is important when you don't own the device, which, for mobile, is the majority of the enterprise world," Singer says. "This helps you know where your apps are and how your employees are using them and gives you a self-destruct button. Malware and viruses are pretty rare in mobile environments, but this helps if employees disappear or go rogue."

For instance, many enterprises permit employees to use sales management applications in the field, and these applications can include current and potential customer information. No one wants an employee taking that information to a new employer after she leaves the original enterprise, Singer says.

Shared Access

Call it what you will—software-as-a-service, point-to-point, hosted, or cloud-based—these software solutions can take security matters out of an IT manager's hands, says Donald Hasson, product engineer at Bomgar (www.bomgar.com).

"With SaaS, you're using shared resources, but when you own a solution and it's inside your network, it's dedicated to you and you don't have potential for others' mishaps to affect yours," he says. "You own it; it's there and in your control."

Hasson says cloud-based tools—if they're not secure—account for a majority of where hackers are coming in. He recommends IT managers consider keeping the applications most central to their enterprises within their data centers and behind their firewalls.

Insider Job

Gil Zimmermann, CEO of CloudLock (www.cloudlock.com), says that, at many enterprises, insider access is the biggest threat to enterprise security.

When enterprises do house data in the cloud, Zimmermann recommends IT managers know who's accessing that enterprise data. He uses the analogy of banking information. "Most customers don't spend a lot of time questioning their bank about what they're doing to protect their safe and [safe] deposit boxes; they're more concerned who has access to the credit or debit card number linked to their account and what they're doing with the access to the account," he says.

He suggests IT managers investigate software that lets them see which employees have access to data. These systems also let managers report on access levels for regulatory compliance and for internal and external reports.

"IT needs to know who has access to salaries, price lists, and trade secrets," he says. "The cloud is becoming a primary data repository, which is why I think this type of system is very necessary."

Lost In Space

Everyone's talking about security threats to the information housed on mobile devices, says Ken Singer, CEO and founder of AppCentral (www.appcentral.com). But don't let that talk sidetrack you from another important mobile device threat: its tendency to get lost, he says.

"Really, the biggest threat for the mobile device is the fact that it's mobile and can disappear easily," he says. "They tend to get left in the back of a taxi."

Consider technology that can lock down the device remotely or—at the very least—will track it to its location, he adds.

Such software can be set to alert IT managers when information is exposed to unverified users or when access needs to be allowed for someone else within the enterprise or denied to an employee who previously had access.

Non-Snail Mail

One classic security threat that never seems to go out of style is email. "It's 2011, and email infrastructure is still inherently insecure," says Sal Visca, advising CTO for Email2.com (www.email2.com). "It still travels through the public network through different gateways where copies of

it could easily be taken. We basically still hit send and pray," he says.

Email encryption is the way to go. But Visca tells IT managers they can encrypt email across a public network or can use technology that offers a higher level of complexity. He likens the first to sending a person into hostile territory in an armored car, which can be followed and eventually broken into.

The second, he says, acts as though email is sent through a secure tunnel, a tunnel that essentially burrows under hostile territory to arrive at its location fully secure.

With these systems, all transactions are secured via an architecture where all messages and attachments are exchanged over a secure encrypted channel instead of encrypting the content of the message and sending it through the traditional unreliable SMTP route. Such systems typically rely on the HTTPS protocol, Visca says.

Although it is true that, when it comes to security threats, IT managers can feel as though they're running in place just to keep up, the pace is necessary and doable. And, like most things, after awhile, keeping up with security threats becomes second nature. P

**One classic security threat that never seems to go out of style is email.
"It's 2011, and email infrastructure is still inherently insecure."**

- Email2.com's Sal Visca



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Qualify For Utility Energy Efficiency Rebates

Make Sure Your Enterprise Gets The Most Reward For Its Upgrades

by Elizabeth Millard

• • •

CREATING AN ENERGY-EFFICIENT data center is about more than just being kind to the environment and reducing your company's energy bills. Utility companies offer rebates as an incentive for energy efficiency, and data center managers would be smart to dig into these programs as much as possible. Here are some steps toward qualifying for rebates.

Find Rebate Info

The first step in rebate qualification is to find out which rebates are available, says Ashley Leonard, CEO of Verismic (www.verismic.com). This information is often on a utility company's Web site. "The programs are usually easy to find and contain important information on how to qualify, including whether they require preapproval before you purchase [equipment or software]," he says.

For example, a quick perusal of Xcel Energy's site reveals the company's Data Center Efficiency Program offered to customers in Minnesota and Colorado. The program offers to reimburse enterprises up to 75% for efficiency studies undertaken by one of their approved third-party auditors. If a data center implements the study recommendations, Xcel offers a discount of \$400 per kilowatt saved for preapproved projects.

TOP TIPS

- When performing an initial energy audit, include the IT department, facilities management, and utility representatives to share data and get multiple perspectives.
- Talk to utility company reps about what type of rebates they may offer in the future and make sure to keep in touch on a regular basis. It's helpful to even put a quarterly call into a calendar.
- Vendors of data center equipment may have buyback programs or other incentives available for replacing inefficient equipment, boosting the financial gain realized by rebate programs.

Perform An Audit

When moving toward qualifying for rebates, you'll also need to plan for an audit of energy usage, including a full inventory of the mechanical and electrical components, according to Kris Domich, principal consultant at Dimension Data (www.dimensiondata.com).

"This will help to establish a baseline of energy usage and determine where the organization's energy efficiency sits against industry standards," he notes. "This is important because many rebate programs exist to incentivize organizations to become more efficient."

Along with planning an audit, data center managers should establish a relationship with local utility firms and garner information about their rebate programs. In most cases, signing up for these programs and bringing in utility representatives to help with auditing will be free of charge. "Most utility companies have energy efficiency programs in place that cover everything from residential to commercial customers," Domich says.

To give utility firm representatives an idea of your enterprise's energy usage and potential upgrades, it's useful to have audit numbers before talking to them. But make sure to bring in the utility company for a formal audit, advises Dr. Joe Polastre, CTO of Sentilla (www.sentilla.com).

"The golden rule is to always contact the utility company before starting any work," he says. "If the utility company doesn't benchmark the 'before state,' you are ineligible for rebates."

Create An Upgrade Schedule

When talking with utility companies about specific rebate programs, it's helpful to put a plan in place that can track which components are introducing the most significant inefficiencies and target those first for upgrades.

From there, the schedule will include a step-by-step upgrade plan that lays out specific purchasing and implementation strategies that will keep a company on track for

rebate qualification. For example, replacing aging UPS equipment or legacy non-variable cooling units might be first on the list to replace, followed by the purchase of more efficient cooling components.

At the heart of any schedule will be the documentation that tracks the before and after states of the data center, Polastre says. This spreadsheet or document should include serial numbers, disposal policies, and energy readings.

Unfortunately, rebates aren't like tax refunds, where a return can generate a nice check in about four to six weeks. Instead, the rebate process does have areas where it can get stalled, and it's important to know these in order to boost patience, or to understand where additional efforts might be needed.

"In some cases, we've seen the rebate process become a negotiation between vendors and the utility companies," Domich says. "Organizations should be prepared for this to be the case."

Even when there aren't these types of negotiations, rebates may be available only for a certain time period, and an organization may not be technically or financially capable of making the required changes within that specific timeframe. For example, Pacific Gas & Electric offers an incentive for each server removed as a part of a consolidation project, but that rebate will close at the end of this year.

"Additionally, some rebates come only after an investment in a new technology and demonstrating an increase in energy efficiency after the new technology is implemented," Domich adds. "Some organizations may not be in a financial position to make that investment."

Manage The Power

After doing upgrades, make sure to keep the efficiency process rolling by implementing power management software, particularly on power-hungry equipment such as PCs, says Verismic's Leonard.

"You'll see immediate reductions in energy consumption and greenhouse gas emissions without the labor, materials, or

Key Points

- The first step toward qualifying for utility rebates is performing an energy usage audit to establish a baseline.
- Develop a relationship with a utility company representative to learn about current rebates and be informed about future rebates.
- Look into whether a rebate has a specific timeframe in which technical changes must be made and determine whether the enterprise can make those tweaks before the deadline.

disruptions that other data center conservation efforts require," he says.

PC power management software also provides reports on actual savings, he adds, because the applications note the percentage of power saved, the kilowatt hours saved, and the dollar amount saved. With such software, Leonard says, you can estimate power savings before deploying a policy, document power savings, and provide accurate reports.

In order to make sure that every rebate opportunity is snapped up, it's important to keep proper documentation and develop a schedule for monitoring. Sentilla's Polastre says, "Invest in monitoring and management software to track your baseline and the direct impact of each project."

Not only will this data help with future rebates, but it can give a sense of progress when it comes to increasing energy efficiency. That type of momentum can prove crucial when budget approval time rolls back around. Showing the CFO the results of rebates and efficiency strategies could be useful when proposing more equipment purchases or space buildouts.

Also, some rebate programs require certain pieces of equipment or software to be kept in place for a certain number of years, Leonard says. Get the specifics on every rebate, including timeframes, follow-ups by utility companies, and payment schedules, and you'll be well on your way toward boosting a budget and being more energy efficient in the process. □

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Increase Data Center Energy Savings & IT Cooling Capacity

Electronic Environments Helps The Hanover Insurance Group Achieve Its Goals

by Marty Sems

IN TODAY'S INTENSELY cost-conscious, high-tech business world, a growing number of companies are looking to save money and improve energy consumption at the same time.

The Hanover Insurance Group was one such company. It was looking to improve its data center's cooling efficiency and the current system's capacity, while allowing for increased IT equipment densities within the data center. It found help by collaborating with Massachusetts-based EEC (Electronic Environments Corp.).

Energy Efficiency Practices In Place

A strong proponent for reductions of energy and greenhouse-gas emissions, The Hanover works with National Grid and has earned the EPA's Energy Star certification in recognition of superior energy efficiency and environmental protection.

As a result, many energy efficiency practices have already been put into place at The Hanover, including implementing a high-efficiency ultrasonic humidification system

The solution? The Demand Based Cooling™ airflow and thermal management system from AdaptivCool®. This customizable system consists of a series of networked HotSpot™ underfloor and overhead air movers, server rack and CRAC (computer room air conditioner) temperature sensors, sensor hubs, CRAC controllers, and environmental management software.

The Project

The Hanover project involved a 13,000-square-foot data center with three rooms cooled by 13 CRAC units. Comparing the IT load to available cooling capacity in each room, Electronic Environments found the center was over-cooled by 50%. Utilizing the Demand Based Cooling system would enable The Hanover to put some CRAC units into hot standby (i.e., off, but available if needed in the event of a unit failure). Enough cooling would still be available to keep the server racks within the 2008 ASHRAE (the international technical society organized to advance the arts and sciences of heating, ventilation, air-conditioning, and refrigeration) guidelines of between 64/80.6 degrees and above a 41.9 degree corresponding dew point.

With the project, The Hanover and Electronic Environments faced several challenges, including the need to integrate new energy-efficiency technology within the data center without affecting day-to-day operations. The two companies also wanted to eliminate all the hot spots in The Hanover's data center. Most of all, they wanted to achieve all this without making major changes to the existing data center infrastructure and meet the company's economic payback criteria of less than 24 months.

Build The Model

Information from an initial onsite audit was used to build a CFD (computational fluid dynamics) model of the data center, which simulated the airflow and thermal characteristics of its rooms. CFD modeling and analysis results were then used to develop a customized airflow and thermal solution, outlining the baseline conditions of the data center, including energy consumption and cooling capacity, as well as defining the customized Demand Based Cooling system to be installed.

Along with the customized Demand Based Cooling airflow and thermal management system to ensure the integrity of the rooms, Electronic Environments also installed cut-out covers into floor openings and blanking panels into key rack openings. Adjustments were also made to some CRAC set points.

The CFD model, which showed airflow, temperature, and static pressure throughout the data center, allowed for proper placement of both HotSpot underfloor air movers to get cool air directly to racks that needed it, plus overhead air movers to bring hot air directly back to the live CRAC units.

After installation, five of the 13 CRAC units The Hanover previously used were able to be put into hot standby. With these

Project Summary

Cost of project:
\$144,000

Estimated annual savings:
600,000 kWh

Estimated energy cost savings:
\$96,000/year

Utility incentive:
\$21,500

Company payback:
16 months (with rebate)

Benefits

- Five out of 13 CRAC units were placed into hot standby, and energy usage for cooling reduced by 27%
- Increased cooling redundancy
- Increased IT load capacity by 70kW
- IT equipment is thermally safe
- 24x7 monitoring
- Energy incentive from the National Grid Commercial Energy Efficiency Program

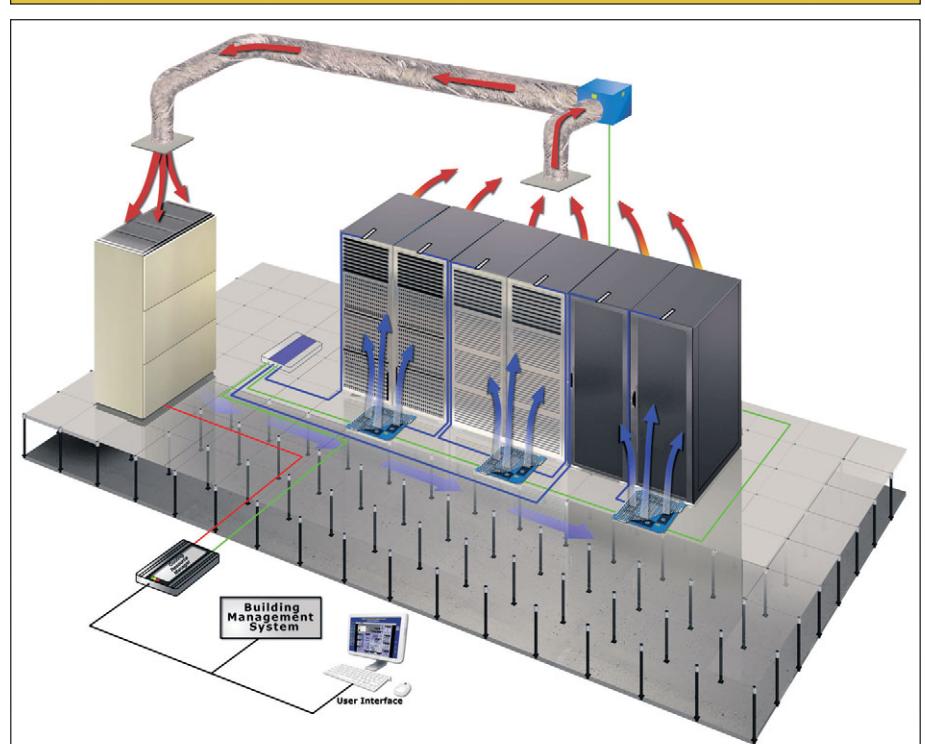
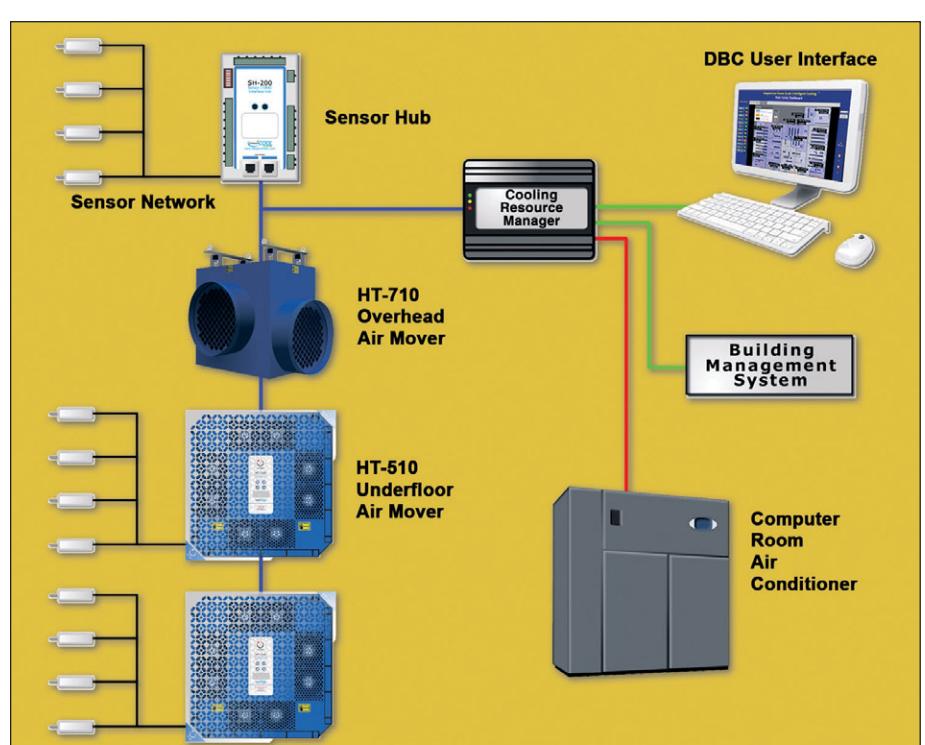
(recommended and installed by EEC, which is also responsible for maintaining the data center's power and cooling infrastructure).

But The Hanover was still seeking to find additional data center energy savings. The Hanover was moving from classroom-style server to a hot aisle/cold aisle setup. Its aim was to increase the density in its racks, which would create issues with air distribution, causing hot spots at the rack level.

Electronic Environments, working closely with The Hanover, recommended a unique solution that could not only save energy and eliminate hot spots, but also maximize IT cooling capacity in the data center.

AdaptivCool Demand Based Cooling

The Demand Based Cooling system from AdaptivCool is a customizable system consisting of a series of networked HotSpot underfloor and overhead air movers, server rack and CRAC temperature sensors, sensor hubs, CRAC controllers, and environmental management software.



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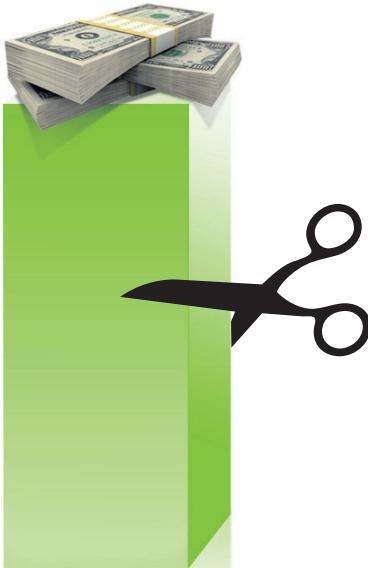
units off and proper heat returning to the operating CRAC units, energy usage for cooling was reduced by 27%. This savings also increased the room's cooling redundancy by having an additional five CRAC units of excess capacity.

The Hanover's move to a Demand Based Cooling system brought several other benefits. During system installation, The Hanover increased its data center IT load capacity by 70kW. The 24/7 monitoring allows for automated CRAC unit response. In the event of a thermal occurrence in the

data center, the system signals those units in hot standby to automatically start up for additional underfloor air pressure and cooling. Simultaneously, the system can generate related email alerts to inform The Hanover personnel. Once the occurrence is corrected, the units automatically go back into hot standby. Plus, the installation at The Hanover provided an energy incentive from the National Grid Commercial Energy Efficiency Program. **P**

Independent Businesses Skeptical Of Cloud Savings

Small business owners are not convinced of the IT cost savings of cloud computing. So says Newtek Business Services in the June report from its monthly SB Authority Market Sentiment Survey of about 1,000 respondents. Forty-eight percent don't anticipate IT savings from cloud solutions compared to 20% who do. However, 42% would favor a Microsoft/SBA cloud service over Apple's iCloud (15%), Amazon (8%), or VMware (6%). When it comes to ranking the top business software application process, email was ranked first (43%), followed by Web applications/e-commerce (26%) and database management (17%).



U.S. Department Of Interior Eyes IT Spending Cuts

Via its "IT Transformation Strategic Plan," the U.S. Department of Interior has announced plans to cut about \$500 million in IT spending during the next decade in an effort to save money. The move is related to President Barack Obama's effort to cut spending across all government entities. In total, the Interior Department plans to cut \$100 million each year from 2016 to 2020 by "modernizing IT infrastructure and aligning remaining resources to better serve customers." The department reports the transformation will result in shifting the focus of large-scale IT planning from the acquisition of physical hardware and software to the delivery of customer-oriented services; creating a new purchasing model for IT that will see bureaus purchase services vs. infrastructure; and meeting or exceeding customer expectations where reliability, accessibility, and availability to the information resources needed are concerned. The department plans to have launched several pilots by December. Specific moves include migrating to cloud-based systems for forms and records, reducing data centers and servers by about half, and moving to one email system.

HP & Oracle Battle Over Sealed Court Documents

The battle between tech powerhouses HP and Oracle is raging on, with Oracle now demanding that HP reveal sealed information from a June lawsuit it filed against Oracle accusing the company of breaching existing agreements regarding servers based on Intel's Itanium platform. For its part, HP says it's ready and willing to make the information available, but it would involve revealing sealed details about the settlement agreement reached between the two companies when HP's former CEO Mark Hurd joined Oracle. At the heart of the legal drama is HP's assertion that Oracle's choice to stop supplying software that runs on Itanium-based servers will hurt HP and its customers in the long run, because a number of HP's enterprise operating systems run only on Itanium-based systems. The two companies used to have a close partnership, but the relationship deteriorated once Oracle purchased Sun Microsystems and entered the hardware market.

SIX QUICK TIPS

Cut Carbon, Save Money

Improving Energy Efficiency Lowers Costs & Reduces Carbon Emissions

by Julie Knudson

• • •

ACCORDING TO FIGURES released by the EPA last year, more than 6 billion kilowatt-hours could be saved each year through just a 10% improvement in the energy efficiency of America's data centers. Because energy savings and carbon reduction initiatives go hand in hand, we've rounded up some tips to help you lower energy use, save money, and cut carbon emissions now and in the future.

Virtualize

Embracing virtualization more fully can take many shapes—from combining multiple servers into a single piece of hardware to using a virtual firewall appliance—and all of them have the potential to reduce carbon emissions by leveraging less equipment within the data center and getting more efficient use out of the devices you do have.

For enterprises serious about minimizing carbon output as they grow, one option is to transition portions of their data center activities to be completely soft, one example being "moving away from a physical application delivery product to what we call a soft base or virtualized appliance-based application delivery product," says Eitan Bremler, director of product marketing for virtualization and cloud solutions at Radware (www.radware.com). "Through application delivery controller (ADC) virtualization, you can now keep the same amount of emissions because we're talking about a hypervisor, which can run multiple virtual ADC instances."

Manage Airflow

Why crank out more heating or cooling than absolutely necessary? Dennis Symanski, senior project manager at EPRI (Electric Power Research Institute), encourages data center managers to arrange equipment "in the hot aisle/cold aisle alignment, where you don't have hot air from one computer blowing directly into the intake of the next computer, or server, or storage array to preheat the air going in there. If you have hot aisles and cold aisles, you've segregated the airflow such that you've hit an optimum for operating your data center."

Optimizing hot and cold airflow doesn't need to be difficult or expensive. Instead, get creative and use some common sense. As you're decommissioning, take the time to relocate and consolidate systems so you're getting the best use of the available space, cooling, and power.

Once your equipment is in the right spot, most of the materials you'll need for air containment are inexpensive and available at your local hardware store. "You can buy sheets of plastic and plywood," says Joe Polastre, PhD, CTO and co-founder of Sentilla (www.sentilla.com). "You don't need to buy expensive enclosures with fancy designs. It's very easy. I've seen a lot of it done with plastic sheeting." If you've managed to do away with a lot of equipment and now find yourself with extra floor space, consider installing a wall to close off the portion of the data center you're no longer using. This will eliminate the need to condition the excess area.

Consolidate & Decommission

What data center doesn't have at least a few old servers hanging around, sucking up juice and doing nothing useful in return? Cutting the power to unused units and increasing the efficiency of underutilized devices by consolidating them can quickly tack on the carbon reductions. "Auditing what's there and decommissioning the equipment that's unused or consolidating it is a real quick win and can typically be done in a very short amount of time," Polastre says. He recommends not just looking at servers but storage, too, because "storage may soon become a bigger problem than the servers themselves. It's actually used a lot less than the servers."

Bremler goes a step further, saying, "Consolidate as much as possible your application delivery products, especially today where a lot of the application delivery units are not highly utilized. I think everybody's aim is to have as high utilization as possible on as low a number of boxes as possible." Look carefully at every piece of equipment in your data center and determine where you can gain better efficiency. Remember—just because a device isn't active doesn't mean it isn't consuming power and adding to your carbon footprint.

Turn Up The Heat

If you usually grab a jacket before heading into your data center because the place feels like an icebox, chances are good that you have carbon reduction opportunities right in front of you. "It's thought that computers need a very cold environment in order to operate properly. That's just really not the case," Symanski says. Current ASHRAE recommendations put the upper temperature limit for data center environments at 81 degrees Fahrenheit, and that set

Best Long-Term Tip:

Cut Carbon Throughout Your Supply Chain

Expand your thinking when it comes to your organization's overall carbon impact. Consider equipment's energy usage over several years, along with what level of carbon emissions are involved throughout the manufacturing, shipping, and disposal processes. "It puts a little bit more pressure on the equipment vendors to be more efficient and to provide a more holistic picture of what the overall costs are going to be of running the equipment," says Joe Polastre, PhD, CTO and co-founder of Sentilla (www.sentilla.com). Because many equipment vendors now have carbon reduction targets of their own, IT managers interested in emissions figures throughout their supply chain should have more data available for review.

Best Free Tip:

Partner With Other Groups

Other groups within your organization may also be stakeholders when it comes to carbon reduction efforts. "The people responsible for the computers and the actual services that they provide . . . are not the people who pay the electric bill for the data center," says Dennis Symanski, senior project manager at EPRI (Electric Power Research Institute). "They are not the people who struggle with the air conditioning and everything else." He strongly encourages IT to tap the expertise available from facilities and engineering. "If they all coordinate their efforts, you don't do something very smart on the IT side but very dumb on the facility side."

External partners may also be available to offer advice or assistance. Most utilities will work with you to determine your current usage and evaluate opportunities for greater efficiency. Some even offer incentive programs to help cover the cost of data center improvements.

point may be modified again when the third edition of "Thermal Guidelines for Data Processing Environments" is published later this year. Symanski says the guidelines include "a buffer that, if all of a sudden you lose power and some of the equipment is still on, and the air conditioning doesn't quite keep up, it still has a safety margin."

The savings potential from running warmer temperatures in the data center shouldn't be underestimated, and even minor set point increases may result in significant carbon reductions. "Raising set points on CRAC units and chillers may reduce energy consumption and carbon footprint by 20%," says David Kinney, facility operations manager at Telehouse America (www.telehouse.com). □

BONUS TIPS

Specify high-efficiency power supplies in new equipment. "Sometimes paying a little bit extra for a power supply, which is a relatively cheap part of the computer to begin with, saves you money forever," says Dennis Symanski, senior

project manager at EPRI (Electric Power Research Institute). The one-time cost can contribute to lower energy use for the long haul.

Make good use of perf tiles. Once your hot/cold aisles are set up, take a

minute to be sure you have perforated tiles where you need airflow and blanks where you don't. Each time you move equipment around, update your tile locations to keep energy usage down.

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Legislation Introduced To Ban Some E-waste Exports

E-waste created in the United States isn't always processed here. In fact, it's sometimes exported to developing nations where the recycling processes aren't as established as the United States.

Barbara Kyle, national coordinator for the Electronics TakeBack Coalition, says, "When e-waste is handled badly, it can cause great harm. It can end up in crude processes that reclaim metals but burn the plastics, emitting deadly dioxin—which the workers and communities end up breathing. The leaded glass from CRTs gets dumped, causing soil and water contamination. One area in China called Guiyu (where a lot of e-waste goes) has been studied, and they found that 80% of the kids have lead poisoning."

Enterprises can help avoid contributing to environmental issues by being more aware of the end-of-life phase of their equipment and where it goes after it reaches the recycler.

No Exports To Developing Nations

To prevent e-waste from becoming a danger, a few senators and representatives introduced new legislation that would make it illegal for companies to export hazardous electronics to places categorized as developing nations.



Titled "The Responsible Electronics Recycling Act," the bi-partisan bill was introduced to the House by representatives Gene Green, Mike Thompson, Steve LaTourette, and Lee Terry; it was introduced to the Senate by Sheldon Whitehouse, Sherrod Brown, and Lisa Murkowski.

The bill would help to promote the U.S.-based recycling industry. "It promotes 'clean' exports by allowing tested and working equipment to be exported for reuse. It also allows exports of used electronics that don't contain toxics," Kyle says.

In addition, the e-waste bill could mean an increase in jobs for U.S. recyclers. "When we export containers full of e-waste to developing countries, we are exporting jobs along with them. If we pass this law, then the disassembly, repairs, and preprocessing work would happen here in the U.S.," Kyle says. American recyclers may need to hire more people and expand their facilities to meet the increased demand.

The bill is also being endorsed by a number of popular electronics manufacturers, including HP, Dell, Apple, Samsung, and Best Buy. Kyle is optimistic but realistic about the bill passing. "The recycling industry is split—some for it, some against it. (The exporters are against it.) We hope that Congress will see that this is a bill that will support job growth and business expansion."

by Nathan Lake

Are Data Centers Finally Ready To Go Solar?

Rising Energy Consumption & Costs Breathe New Life Into A Familiar Alternative

by Joseph Pasquini

• • •

THERE IS NO REPRIEVE from the turmoil that escalating energy consumption and costs often mete out upon the financial interests of a company. Nowhere is that monetary shock evidenced more strongly in today's IT landscape than within the confines of the corporate data center. With overall energy usage continuing to rise, data center managers must constantly search for new methods to minimize power and cooling costs while ultimately enhancing operational effectiveness.

Energy-efficient server and network devices have unquestionably helped to mitigate some of the pain caused by the

The Challenges Thus Far

Traditionally, data center managers have displayed a healthy dose of skepticism regarding the feasibility of using solar energy to provide adequate or even supplemental levels of power to their infrastructure operations. The primary reasons for this uncertainty are the exorbitant cost of solar arrays and their inherently prolonged return on investment. A very large installation of PV solar panels is required to produce even a fraction of the energy necessary to power the typical midsized data center—in other words, data centers require more electricity than solar power produces, and solar power's up-front costs remain quite expensive.

Demanding logistical requirements and a distinct dependency upon a sometimes fickle Mother Nature are also worthy reasons for contemplation before committing to solar. The placement of a solar energy delivery system can be particularly challenging due to the varying nature of the sun. To compensate, solar arrays are available in both fixed and tracking implementations. While fixed installations are less expensive, arrays that can track the sun are more capable of dealing with daily fluctuations in the weather as well as seasonal changes in the climate.

"The problem with data centers going solar is most are located in the heart of the major cities and don't have the land necessary to install the amount of solar panels they need," says Phil Nail, founder and CTO of AISOnet. "[Some centers] also allow anyone off the street to rent rack space and put in any amount of servers they want; since they allow this, there is no way to figure out the amount of solar panels they need to cover their electric bill."

Testing The Waters

Although the challenges associated with solar power have caused many businesses to forgo its use, there are some notable examples of some medium-sized and larger data centers and colocation facilities that have either successfully deployed or are at least in the process of testing the waters.

Earlier this year, Facebook became the latest mainstream company to leverage PV arrays. Other notable organizations that have also decided to pursue solar power include Amazon, Google, Microsoft, and Yahoo!. In fact, AISOnet's Nail says his company's data

center facility is completely powered by 120 solar panels that generate DC power, which is then run through an inverter and stored in batteries.

According to Dr. Michael Woodhouse, solar energy economics analyst for the National Renewable Energy Laboratory, California weighs in as the champion of PV deployments within the United States. "New Jersey actually comes in second thanks to a combination of subsidies as well as a very high existing cost of traditional energy sources," Woodhouse says.

The Outlook Ahead

Some industry experts are predicting that grid parity—the point at which solar energy is equivalent in monetary cost to grid-based power—is still years away. According to Emerson's Pouchet, however, the future looks promising.

"Solar PV and thermal systems are constantly growing in energy efficiency, which will hopefully translate in a crossover point where the required array footprint will come close to aligning with the data center's available space and match the daytime power requirements," Pouchet says. "For the foreseeable future, however, solar PV will remain a nice-to-have bolt-on accessory that will enable the data center operator to take some control of their carbon dioxide equivalent (CO₂e) intensity and manage the volatility of their grid energy costs."

Pouchet says forward-thinking data center managers should consider solar for future operations. "They should look to site their next facility in areas where utility-scale solar PV and thermal systems are commercially viable and that also offer opportunities to co-invest with energy developers in order to lock-in favorable energy supplies and costs," he says.

"Any firm that can take full tax advantage of the Investment Tax Credit and the accelerated depreciation schedule . . . is going to benefit the most from investing in solar," Pouchet adds.

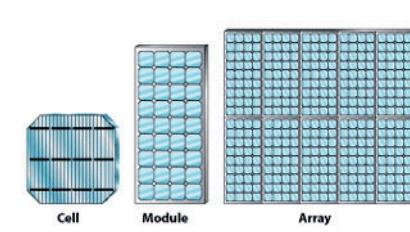
According to AISOnet's Nail, enterprises are best poised to benefit from investing in solar if they are truly dedicated to clean energy in general. "They have to be very conscious about the type of lighting they run in their buildings, the type of cooling they run, and the type of computers their employees use every day," Nail says. □

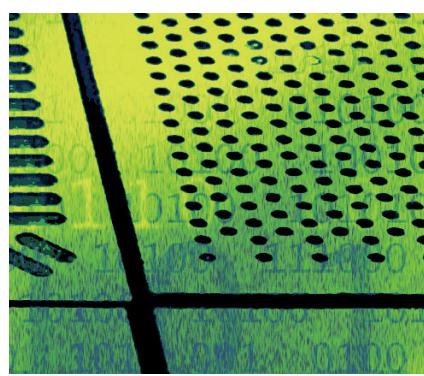
Photovoltaic System Components

Photovoltaic, or PV, systems feature a building block approach, which allows them to be tailored to meet a specific need or application. Every PV system is composed of a number of individual solar cells.

Each cell is smaller in size and usually produces only between 1 and 2 watts of power. To increase power output, cells are connected to form larger units of varying size known as modules. Modules, in turn, can be connected to form even larger combined units called arrays. Most PV system installations also include the required hardware for automatically pointing an array toward the sun.

IMAGE COURTESY OF THE U.S. DEPARTMENT OF ENERGY





BUYING TIPS:

Data Center Flooring & Accessories

ONE WAY TO DRAMATICALLY cut data center cooling costs is to invest in raised flooring, because it can play an active role in the way you deliver cooling and manage the heat around your servers. Here, we'll identify a few key elements you'll need to think about before you purchase data center flooring and accessories.

Space. "If your data center was built 15 to 20 years ago, it may have been built on a floor that's shallower than what's required today," says Scott Jacobitti, national sales manager for Snake Tray (www.snaketray.com). Most new raised floor construction requires a minimum of 24 to 36 inches, which is primarily to provide airflow under the floor and cool the electronics in the data center. If you don't have the space available, you may need to redesign the data center flooring to properly handle the heat from your servers.

Buyers' Checklist

- Will you need a new build-out to meet the space necessary for airflow and cable management?
- Do you currently have enough power to provide energy for all the servers, and will there be room for expansion in the future?
- Do you have cable cutouts that will prevent the data center's cool air from leaking through the areas where the cables run to the cabinet?
- Does your data center need an antistatic floor?
- Are all sections of the data center flooring capable of handling the weight and traffic to which they will be subjected?

Power requirements. In most cases, power circuits will not change over the lifetime of the data center. If you're moving or plan on moving in the near future to a denser server layout, you'll want to build in the power to handle it. "Most cabinets are currently running 10, 15, or 18dBA, and maintaining that energy means that you'll need to bring a tremendous amount of cabling under the floor," Jacobitti adds. "In conjunction with the need for airflow, you may have a situation." You'll need a tray that allows for air movement to go through the tray, rather than blocking the air and creating a hot spot.

Cables to cabinets. There are going to have to be some cutouts in the floor for your cables, and you'll want to seal around the cable cutouts to keep your data center cooling efficient. Otherwise, the cold air can escape through the space, which can be a big waste of energy. By installing a grommet with a filler material, you can still have the flexibility to easily access cables without reducing the data center's cooling efficiency.

Surface. "You definitely want a nonreactive surface, because you're dealing with a lot of expensive electronic equipment that's susceptible to ground faults and shorts," Jacobitti says. Flooring options are available that are static-resistant, alternatively known as antistatic, static dissipative, or static conductive. Keep in mind that the floor will need to prevent static against a variety of footwear and humidity conditions. Flooring with a traceable ground path is best

Key Terms

Base. The piece that's attached to the deck by a mastic or mechanical fastener; its height will determine how high the finished floor will be.

Head. Inserts into the base and includes holes to fasten panels or stringers, and there's usually a leveling to let you make fine adjustments to the floor height.

Panel. The material that makes up the walking surface of a raised floor. Depending on your weight and traffic needs, the panel may be made from steel, concrete with steel reinforcing bars, or aluminum. The interior may be filled with a lightweight material to give you the ability to easily move panels.

Stringer. A metal channel or square tube that's attached to the pedestal head that forms a grid and provides lateral stability. May either be snapped into place or fastened from the top with a screw.

suit to data centers because it can migrate the electrostatic discharge away from the electrical equipment.

Weight. Make sure that all areas of the data center raised floor are capable of handling server weight and traffic. "The data center is a dynamic space, and your organization will be moving things in and around the floor, so the entire structure needs to be sound," Jacobitti says. You'll want to be especially careful in areas where you plan to roll in equipment, not just the areas where the equipment will eventually be located. □

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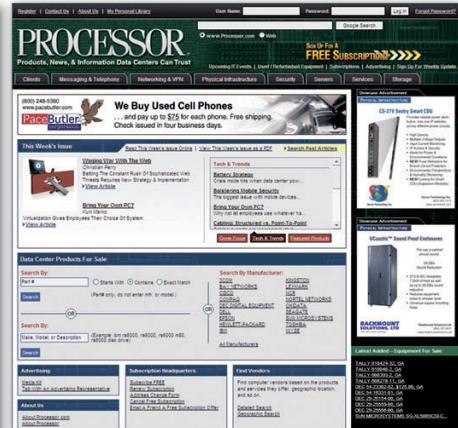
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Data Center Flooring & Accessories

Product

Access Computer Floors



Description

Access Computer Floors has more than 28 years of experience working with raised flooring for high-profile clients such as General Electric, the United States Postal Service, and Morgan Stanley. The company's raised floor system process, including bidding, estimates, purchasing, and installation, is efficient and cost-effective. In addition, the raised floor can be adapted for future modifications.

- Available in wood core, steel, concrete, aluminum, and panels
- Variety of panel options and pedestal systems
- Laminate finish available in 1/16-inch and 1/8-inch thickness
- Can repair flooring and perform routine flooring maintenance
- Used raised flooring available as an affordable alternative

Best For: Enterprises that want the job done on schedule and within budget.

Access Floor Systems



AccessFloorSystems.com offers everything you'll need for a data center floor, including raised floor panels and components, equipment supports, cable trays, trim materials, grommets, ESD carpet and flooring, panel lifters, and anti-static mats. AccessFloorSystems.com has been around for more than 25 years, and it offers same-day shipping on most raised floors, components, and accessories.

- Raised floor systems are available for new and used Tate Bare Concore, Woodcore Panels, Tate All Steel Panels, Tate Concrete Panels, and Tate Aluminum Panels
- Replacement panels and components for new and legacy data centers
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- High-velocity perforated floor tiles and grates to assist with cooling issues

Best For: Enterprises that are building or remodeling the data center floor and want a company that offers a large selection of products and solutions for legacy data centers.

Bergvik Flooring Modular Raised Floor



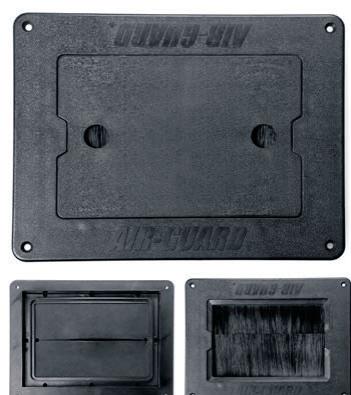
In the flooring business since 1970, Bergvik offers the strongest, most stable and modular raised floor available for data centers. Bergvik's engineering department supplies CAD drawings that are suited to your needs.

- The Iso Floor system offers custom panels as an option to fit your equipment depths and allows for optimization to build smaller and smarter rooms; floor heights from 12 to 94 inches
- River Cooling Airflow Panels with high-plume fins provide superior air stratification to cool upper servers when compared to flat bottom panels; the unique 36- x 24-foot panel also allows for more server racks
- Earthquake bracing frames will fit any raised floor and are tested to NEBS standards

Best For: Enterprises that are looking to lower energy costs by up to 40% and add more server racks in the same footprint, increasing their revenue stream.

Product

PDU Cables Air-Guard Cable Seal Product Line



Description

Sealing raised floor cable openings with the Air-Guard Cable Seal product line can significantly minimize air loss and improve static pressure to cool data center equipment. It also helps to prevent expensive electrical equipment from overheating. Air-Guard is available in brush-only, gasket-only, and dual-stage sealing options to meet each data center's specific sealing priorities and needs. A safety cover is also available for increased safety and durability when cables are not going through the raised floor cutout.

- Dual sealing system provides the most effective, economical means to eliminate bypass cool air through cable cutouts
- Choose from products with overlapping brushes and/or gasket material to seal your specific cutout
- Flexible and simple cable routing via removal of floor tiles without disconnecting equipment

Best For: The most practical and effective solution in sealing data center raised floor cut-outs.

Sealco Tacky Mats



Sealco provides a variety of tacky mats to keep your computer or clean room free of contaminants. Each mat is composed of multiple-layer polyethylene film with a specially treated pressure-sensitive adhesive on one side, which catches the contaminants from shoes or equipment. When sheets gather contaminants, the top sheet can be peeled off to expose a new sheet. The sheets are designed to resist adhesive transfer, preventing sheet-to-sheet de-lamination. Ask about our free removable mat holders that allow easy placement and removal.

- Variety of sizes and colors
- Keeps contaminants away from computer equipment
- Optional company logo imprint
- Mat sheets individually removable and numbered
- Non-beveled edges ensure each sheet is free of contaminants

Best For: Entry ways into computer rooms or any area where dust/dirt can track into the computer room.

Sealeze CoolBalance



Data centers are under pressure to be more efficient in their cool air usage. Newer equipment is more compact and generates more heat than previous generations. The CoolBalance brush seal with XtraSeal™ technology utilizes a thin EPDM membrane that seals the V-gap produced when cables penetrate brush filament. The family of products includes in-floor and surface mounting as well as a circular seal. The CB33 circle seal completely insulates the cables, due to the geometry, to offer a very effective sealing solution. CoolBalance comes in a variety of sizes, from 5 x 5 inches to 10 x 24 inches, with circular seals in nominal 4- and 6-inch sizes and other customized solutions to seal around PDUs or inside your cabinets.

- Seals include in-floor design for new and existing facilities, surface-mount for odd-shaped or irregular openings, circle seals for small openings, and wall seals for through-the-wall cable passages
- Sealeze can custom-build sizes at off-the-shelf prices
- Independent testing has verified the effectiveness of CoolBalance in actual installation conditions
- Backed by 30 years of experience in the industry

Best For: New or existing facilities looking for brush products to accommodate a variety of cable cutout needs.

Contact: (800) 787-7325 | www.coolbalance.biz

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Data Site Solutions Quantum Air™ Tile



Made in the United States, Quantum Air™ Tile from Data Site Solutions is an innovative way of delivering your subfloor airflow to the targeted areas of server cabinets. This passive solution's patent-pending design cools multiple cabinets with one tile, offering an energy-efficient way to deliver more CFM to the whole cabinet. In testing, the Quantum Air™ Tile dropped face inlet temperatures by 10 degrees Fahrenheit at the top of the cabinet.

- 24- x 24-inch tile dimensions
- Extruded aluminum construction
- Anodized aluminum-clear finish
- Rolling weight load limit of 1,600 pounds
- Compatible with most steel systems

Best For: Enterprises that want to direct the cold air supply into the server cabinet.

Julie Industries StaticSmart Flooring



STATIC CONTROL FLOORING

For more than 30 years, Julie Industries has been providing static control flooring solutions to companies and government facilities throughout the world. The StaticSmart line of floor finishes includes ESD carpet tile and positile, ESD vinyl, and ESD rubber tile. All StaticSmart flooring is appropriate for data centers and access floors. StaticSmart offers a lifetime warranty on static protection properties.

- Easy to install
- Wide selection of styles and colors
- Low maintenance requirements
- Permanent static protection without specialized footwear
- Lifetime static protection warranty

Best For: Data centers and networked environments needing fail-safe static control flooring for either access floor or non-access floor applications.

Mainline Computer Access Panel Lifting Tool



The vacuum created by the double cups on the Access Panel Lifting Tool from Mainline Computer allows easy lifting of heavy weights: Simply place the Access Panel Lifter Tool onto the material and press down to force out the air underneath the vacuum cups, which creates a powerful vacuum hold. The suction is broken when the fingertip-operated bar is lifted. Mainline Computer recommends one lifter for every 500 square feet.

- Heavy cast aluminum handle
- Spring-activated
- Oil-resistant black nitrile rubber vacuum

Best For: Removal of raised floor access panels.

Staticworx Eclipse EC Rubber Tile & Sheet Flooring



Eclipse Rubber is the latest generation of EC Rubber ESD (electrostatic discharge) tile and sheet flooring products from Staticworx. MIT Laboratories recently determined it is the only static-resistant flooring product that successfully inhibits static generation regardless of footwear. Eclipse Rubber has excellent slip resistance, can withstand heavy loads, and doesn't require conductive wax. In addition, it is Indoor Air Quality Certified (free of halogens, PVC, lead, phthalates, and asbestos) and comes with a lifetime conductivity warranty.

- Fault-tolerant flooring product
- Meets all domestic and international standards, including NFPA 99 (healthcare), ANSI/ESD s20/20, ANSI/ESD s97.1 (system resistance), ANSI/ESD 97.2 (body voltage generation), DOD 4145.26-M (munitions handling), and NASA-grade clean-room requirements
- Available in tiles, sheets, or runners for a seamless application

Best For: Mission-critical environments where there is zero tolerance for static, including data centers, call centers, computer labs, hospitals, and other end-user environments.

Tate Access Floors In-Floor Cooling Systems



Tate's In-Floor Cooling Systems for data centers improve energy efficiency and capacity. These products include the DirectAire airflow grate, the SmartAire variable-air-volume damper, and the PowerAire fan-assist module. The DirectAire panel is designed to deliver airflow to server racks at an angle, which allows 93% of the airflow to enter the face of the rack. The DirectAire panel also eliminates bypass air to save on operating expenses. The SmartAire dampers give admins electronic control over the amount of air passing through an individual panel, which can help save on CRAC unit fan energy when servers are idle. PowerAire is designed to provide a blast of cooling where sufficient airflow is unavailable due to obstructions or other limitations under the floor. PowerAire can be throttled up or down based on load requirements.

- DirectAire panels cool more than 25kW per rack and can support a design load of 2,500 pounds
- SmartAire dampers efficiently cool rack with variable load profiles matching cooling to the current load
- PowerAire modules are easy to install in retrofit applications where hot spots are present
- Three options provide compelling return on investment

Best For: Data center environments that face the challenges of reducing cooling costs or are cooling high-density variable loads.

Upsite Technologies KoldLok Surface Mount Grommets



Improper sealing of cable openings in data centers allows valuable cold air to escape and contributes to ineffective cooling of equipment. The KoldLok Surface Mount Grommet increases current cooling capacity, mitigates equipment heat loads, and raises static pressure under the raised floor to improve cool air delivery through perforated tiles or floor grates. KoldLok Surface Mount Grommets snap together to seal cable openings in existing computer rooms with raised floors to optimize existing cooling equipment and manage heat loads. They are designed to seal a variety of existing raised floor tile cutouts and allow flexibility of removing tiles without capturing cables.

- Multiple layers of different-length, opposing-brush filaments eliminate up to 98% of bypass airflow
- Flexibility means admins can re-cable or move tiles with ease
- Will not become dislodged and requires no additional maintenance
- Easy tool-less installation, requires no downtime to install or re-cable

Best For: Sealing cable openings in existing data centers.

Contact: (888) 982-7800 | www.upsite.com

Intelligent PDU Solutions From Industry Leaders

PDUs Direct & Server Technology Team To Provide Multiple Product Lines For Diverse Needs

by Rod Scher

• • •

YOU NEED GOOD, clean, consistent power for your data center, but how can you be sure that your valuable equipment is getting the power it needs? The only way is to employ reliable power distribution units to supply the power and to use appropriate monitoring units to ensure that the power you're getting is in fact clean, efficient, and consistent.

PDUs DIRECT & SERVER TECHNOLOGY

www.pdusdirect.com
www.servertech.com

- PDUs Direct specializes in power distribution units that are simple, efficient, and affordable for data centers with basic needs.
- Server Technology's PDUs and Sentry Power Manager software meet more sophisticated needs to provide and monitor power to mission-critical devices.
- The companies work together to provide multiple product and service channels and exactly the resources that will provide the best value and customer service for all their customers.



PDUs || **direct**

Of course, sometimes you or your customers need basic or metered PDUs that you can set up and use quickly, with minimal complications. At other times, more complex problems call for more sophisticated solutions, and those can require more thought and more advanced units—and often more help acquiring and configuring those units. You need a PDU vendor you can trust, whether you're seeking a simple, economical power delivery solution or looking to equip a large data center with state-of-the-art power distribution and monitoring.

Either way, PDUs Direct and Server Technology are there for you. Two companies selling the quality, reliable and trusted Server Technology products, PDUs Direct and Server Technology can work together to help you meet the power and monitoring needs of data centers large and small. Whether it's an enterprise-class multi-facility data center or a tiny server closet, PDUs Direct and Server Technology have what you need. The two companies want to provide the best customer service and options, no matter how you choose to buy. And that's what PDUs Direct and Server Technology have accomplished.

Simple, Reliable PDUs, Shipped Quickly

For simple, fast, and affordable power distribution, turn to PDUs Direct (www.pdusdirect.com). As a longtime leader in low-cost, fast-shipping PDUs, PDUs Direct's expanded offering includes affordable basic and metered PDUs as well as select switched models. PDUs Direct has been selected as the

Master Distributor for Server Technology on select products and will utilize a distribution channel and reseller channel to deliver products to customers.

Whether it's a simple 20A server rack power strip with 12 NEMA 5-20R outlets or a rackmount 30A 208V power strip with 24 IEC C13 outlets, PDUs Direct has what you need. A selection of more than 80 basic metered and switched units, PDUs Direct has your customers' most straight forward power distribution needs covered nicely.

As an approved GSA reseller, PDUs Direct provides some of the lowest-cost power distribution units in the industry and ships them the day after the order is placed in most cases. When your needs—or your customers' needs—are clear-cut, turn to PDUs Direct for quick delivery of dependable, Basic Metered and Switched PDUs.

More Sophisticated Tools For More Complex Operations

Need more? More sophistication? More features? More help? Server Technology (www.servertech.com) is there to provide the premier models of the most sophisticated PDUs and monitoring solutions currently available. Server Technology's PDUs provide more intelligence, switched and smart PDUs, per-outlet monitoring, and more productivity—and Server Technology can provide all the expertise you need to help you install and configure your PDUs.

For a better handle on PUE, you need more sophisticated delivery and monitoring units,

and Server Technology provides them in the form of POPS (Per Outlet Power Sensing) Switched PDUs such as the CWG-24V 3Ph PDU with 50/60Amp power distribution. Smart and Switched PDUs such as the CWG-24V can tell you if there's enough power available to add more devices or if you're close to exceeding the circuit's capacity. In addition, Server Technology's switched PDUs can control network access to remote sites and data center equipment via IP-based remote power management, and they can be configured to enable network access for remote power management to reboot servers and network gear individually or as a selected group.

Of course, complex technology requires sophisticated management. Server Technology's Sentry Power Manager is the most accurate system you can use to measure and monitor your power usage. It gives you the data you need to make critical decisions regarding your efficiency and carbon footprint, as well as temperature and humidity, at the rack level. Sentry Power Manager is the premium software solution for monitoring your network of sophisticated PDUs. Using SPM's Web-based interface, you can monitor and control your PDUs at the outlet level, view and print status logs, generate reports, and more, managing power distribution in a single data center, in centers across campus, or in locations around the world.

With Sentry Power Manager and Server Technology's sophisticated PDUs, you're in complete control of your complex power distribution needs. **P**

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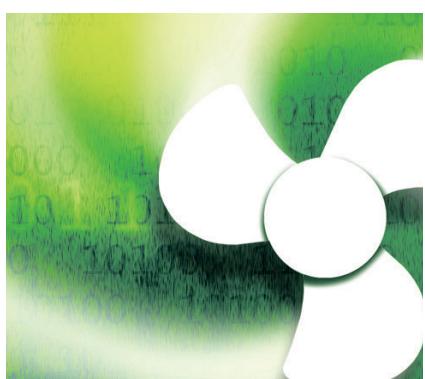


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BUYING TIPS:

Portable Cooling



FOR DATA CENTER PROFESSIONALS, cooling is as vital a concern as storage capacity and security: Data centers run more efficiently and reliably with the proper temperature. And uptime is everything. Portable cooling options can often make all the difference in a temperature-strained environment because of their set-and-forget programmability, built-in automations, and modular and mobile form factors. With that in mind, there are several tips and key industry trends you need to be aware of before you purchase portable cooling equipment.

Consider your current hardware and capacity needs. To make the appropriate portable cooling purchases, decision makers need to consider their current hardware and capacity needs and provide enough scalability to grow with the organization's future data needs. Gina Dickson, product manager at Black Box Network Services (www.blackbox.com), says the primary

concern for any organization is how many BTUs it needs to keep equipment at the appropriate temperature. If you go significantly over capacity, then efficiency suffers; too little capacity, and the cooling equipment won't be able to keep up.

Echoing Dickson's advice, Clark Michel, vice president of Atlas Sales & Rentals (www.atlassales.com)

Buyers' Checklist

- How many BTUs do you need to keep your equipment at the appropriate temperature?
- Do you need a closed- or open-loop system?
- Where will the cooling equipment be located?
- How much of a concern is noise output?
- Commercial-grade equipment offers superior reliability and durability.

.com), stresses the importance of capacity planning. "The portable should be sized to deliver adequate cooling capacity in a worst-case scenario, such as an extended heat wave or failure of the central system. In fact, it is not a bad idea to oversize portable equipment slightly to allow for these circumstances."

Open or closed loop? Another major consideration with cooling equipment is whether to select an open- or closed-loop system. Open-loop cooling systems utilize a liquid coolant such as water that is exposed to air and the environment. They tend to have a lower initial cost but also require more frequent maintenance and water treatment, and they suffer from reduced efficiency compared to closed-loop systems. A cooling system that utilizes an air- and environment-isolated liquid coolant is commonly referred to as a closed-loop system. Closed-loop systems tend to have a higher initial cost but require less maintenance and provide better cooling efficiency compared to open-loop systems.

Know where the equipment will be used. Consider where the cooling equipment will be operated. If it's a dedicated data center manned only occasionally for upgrades and maintenance purposes, then equipment noise is not a major concern. If the cooling equipment will be in an open office or near employees on a regular basis, then low noise output should be high on the list of priorities.

Look for dependable units. Atlas Sales & Rentals' Michel

Key Terms

BTU (British Thermal Units). Used to measure the amount of energy required to heat a liquid such as water. A single BTU represents enough energy to raise the temperature of one pound of water by one degree Fahrenheit at a constant pressure of one atmosphere. In the context of cooling equipment, BTUs are listed as a given rating per hour.

Closed loop. A cooling system that utilizes a liquid coolant that is isolated from air and the environment.

Open loop. A cooling system that utilizes a liquid coolant that is exposed to air and the environment.

says dependability should be top-of-mind. "Always look for a high-quality, commercial-grade unit designed to deliver continuous, 24/7 cooling. The low-cost portables available from home improvement retailers may be adequate for residential use, but they do not have the cooling capacity or durability needed for round-the-clock protection of critical electronics."

Power and restart features. Michel also offers advice on a few must-have features. "Make sure the unit you choose has an automatic restart feature. That way, you can be certain it will start up again automatically in the event of a power blip." He goes on to warn that a backup generator may become necessary, and making sure the portable cooler can run on the backup circuitry is vital. □

WHILE YOU WERE OUT

For: You Time: Middle of the night

PROBLEM:

Server went down	✗	Power failure	✗
Water on floor	✗	Temperature high	✗

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Matt Steding, Allina Medical Clinic's Maintenance Manager

The MovinCool CM Series is perfect for high-tech data centers.



When a "mission critical" data room became a "hot spot" after several upgrades, Matt Steding kept his cool. "The extreme weather puts an extra load on external compressors and condensers — which increases maintenance costs." Which is why he chose the more innovative, cost-effective solution: MovinCool's self-contained, ceiling-mounted CM25 air conditioner.

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In addition to MovinCool's reputation for performance and reliability, Steding was impressed by the CM25's high sensible cooling capacity of 18,900 Btu/h, its seasonal energy efficiency ratio (SEER) of 14 and its compact dimensions. Sitting just 20 inches high, it easily fit into the ceiling space above the data room. "The CM25 has all the features we need — plus an affordable price."

To read more about Matt's MovinCool success, visit: www.movincool.com/allina



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Portable Cooling

Product

Black Box 24U ClimateCab NEMA 12 Server Cabinet



Description

Climate-controlled protection found in Black Box's 24U ClimateCab Server Cabinet lets you install servers without the need for additional cooling or costly infrastructure. These enclosures are NEMA 12 rated, meaning they are ideal for use in indoor locations with falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids.

- Save energy by cooling just the cabinet
- Includes a 6,000 BTU air-conditioning unit
- NEMA 12 rated for protection
- Only 51 x 28 x 31.5 inches, so it can fit where space is limited

Best For: Housing network equipment outside the protection of a climate-controlled data center.

Price: \$4,249.95

Contact: (877) 877-2269 | www.blackbox.com

Black Box 42U ClimateCab NEMA 12 Server Cabinet



The Black Box 42U ClimateCab NEMA 12 Server Cabinet can accommodate larger systems that reside in areas without adequate climate controls, letting users avoid making costly infrastructure changes. These enclosures are NEMA 12 rated for use in indoor locations with falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids.

- Save energy by cooling just the cabinet, not the entire room
- Includes an 8,500 BTU air-conditioning unit
- NEMA 12 rated for protection
- 40-inch depth accommodates most servers

Best For: Server installations outside the protection of a climate-controlled data center.

Price: \$5,499.90

Contact: (877) 877-2269 | www.blackbox.com

Black Box ClimateCab NEMA 12 Wallmount Cabinet



Secure wallmount ClimateCab cabinets from Black Box provide a compact way to protect and cool sensitive components. Users can install the NEMA 12 rated wallmount cabinets in indoor environments where falling dirt; circulating dust, lint, and debris; and dripping or splashing liquids would otherwise cause problems for equipment.

- Compact wallmount design saves space
- Operates on a standard 115V power source
- Single- or double-hinged
- Choose from a cabinet with a fan or an 800 BTU air-conditioning unit

Best For: Remote sites that have limited space and conditions that are potentially damaging to delicate electronics.

Price: \$2,695.95 for single-hinged and \$2,795.95 for double-hinged

Contact: (877) 877-2269 | www.blackbox.com

Product

MovinCool Office Pro W20



Description

The latest addition to MovinCool's portable air conditioners, the Office Pro W20 has an impressive 15,700 BTU/hr cooling capacity. Because the unit is watercooled, customers need not worry about locating the Office Pro W20 in areas without local hot air exhaust: The unit simply requires a water supply and a standard 115V outlet.

- Programmable digital controller enables weekend and after-hours cooling
- UL listed for safe operation
- Accepts a wide water supply temperature range (40 to 90 F) and a minimum water pressure of only 12 pounds per square inch
- Connects to a fire alarm system to allow emergency shutdown

Best For: Office spaces and IT equipment rooms where heat exhaust is not available.

Price: \$4,375

Contact: (800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 12 sold by Rackmount Solutions



The MovinCool Office Pro 12 is a portable spot-cooling air conditioner designed to lower operating temperatures of computers and networking, communications, and office equipment to maximize reliability and hardware life span. The Office Pro 12 is self-contained, portable, and features an electronic thermostat and a programmable control panel for tailored cooling when and where you need it most.

- Provides 12,000 BTU/hr of cool air maximum spot cooling
- Programmable digital controller
- Operates on a standard 115V power source
- No costly installation necessary
- Maintains ideal operating temperature for heat-sensitive electronics, down to 65 degrees Fahrenheit

Best For: Offices filled with heat-generating electronics.

Price: \$3,295

Contact: (866) 207-6631 | www.rackmoutsolutions.net

MovinCool Office Pro 18 sold by Rackmount Solutions



The MovinCool Office Pro 18 offers superior cooling capacity without requiring a nonstandard power source. This portable air conditioner protects sensitive data and electronic systems from loss and failure, acting as an insurance policy for your infrastructure. The Office Pro 18 features an intuitive control panel that lets users designate when the unit operates.

- Provides 16,800 BTU/hr of cool air maximum spot cooling
- Operates on a standard 115V power source
- Programmable controls enable weekend and after-hours cooling
- No costly installation necessary
- UL Listed for safe operation

Best For: Heat-sensitive office and data systems.

Price: \$3,655

Contact: (866) 207-6631 | www.rackmoutsolutions.net

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

KwiKool KPO 12-23 & 12-43 12-TON



The KwiKool KPO portable air conditioners deliver a powerful 12 tons (139,400 BTU/hr) of cooling capacity in a compact size. The unit measures only 62 x 32 x 64 inches—about the size of a typical 5-ton unit—and it's small enough to fit through a standard door.

- Condenser and cold supply and return air can be ducted up to 60 feet using high-static blowers
- Internal circuit breaker allows easy hookup to 208/230-volt (12-23) or 460-volt three-phase (12-43) models
- Integrated phase and power monitor provides protection from electrical power quality issues
- Low ambient temperature controls with a condenser operating range of 30 to 100 degrees Fahrenheit

Best For: Large computer rooms and emergency cooling during outages.

Price: Rentals from \$450 per day or \$1,325 per week

KwiKool SAC 1411



As one option in KwiKool's Strategic Air Center series of portable spot coolers, the SAC 1411 features microprocessor digital controls and an Easy-Touch control panel. The unit is an air-cooled, 1.15-ton portable spot cooler that operates on a 115V/15A circuit. The SAC 1411 also supports 460 CFM evaporator airflow and 1,200 CFM condenser airflow.

- Provides 13,850 BTU/hr of cool air at 95 degrees Fahrenheit at 60% RH
- Operates on a standard 115V power source
- Operating range between 60 and 110 degrees Fahrenheit
- Easy-access hinged panel with Kwikloks

Best For: Computer room, server closet, or warehouse use.

Price: \$3,495

MovinCool CM12 & CM25



The MovinCool CM12 and CM25 are ceiling-mounted air conditioners that are just 15.5 inches (CM12) and 20 inches (CM25) tall, making them compact enough to fit above a drop ceiling for spot cooling space-limited installations and server rooms. The units free up valuable floor space and feature built-in flanges and mounting brackets. The CM25 features a wall-mounted electronic controller that lets users monitor and troubleshoot problems.

- The CM12 provides 10,500 BTU/hr of cool air at 80 degrees Fahrenheit at 50% RH and operates on a standard 115V power source
- The CM25 provides 25,000 BTU/hr of cool air at 80 F at 50% RH and operates on a 208/230V power source
- Can fit into tight ceiling spaces, freeing up floor space

Best For: Space-limited equipment rooms and cramped server and telecom closets.

Price: \$2,895 (CM12), \$6,995 (CM25)

Contact: (800) 264-9573
www.movincool.com/dealer.php

MovinCool Office Pro 36 sold by Rackmount Solutions



The MovinCool Office Pro 36 delivers 36,000 BTU/hr of spot cooling for sensitive equipment. The portable, self-contained air conditioner requires no costly installation and features an intuitive control panel that lets users program the unit to operate after hours or on the weekend.

- Provides 36,000 ETL-verified BTU/hr of cool air maximum spot cooling
- Operates on a 208/230V power source
- Features an AFCI plug for added safety against electrical arcing
- Supports plug-and-play condensate pump
- Easy-to-use programmable controls
- Self-contained, portable, and easy to set up and operate

Best For: Servers, routers, telecommunications, and other heat-sensitive equipment.

Price: \$6,980

Contact: (866) 207-6631 | www.rackmoutsolutions.net

MovinCool Office Pro 60 sold by Rackmount Solutions



The MovinCool Office Pro 60 delivers up to 60,000 BTU/hr of cooling capacity. This portable air conditioner is designed to manage temperatures for computer networks, communications equipment, and office electronics. The self-contained Office Pro 60 is easy to install—just position the wheeled unit, plug it in, and turn it on.

- Programmable digital controller enables weekend and after-hours cooling
- Operates on a 220V power source
- Provides cooling in the low 60s to maximize the life span of heat-sensitive electronics
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: \$9,995

Contact: (866) 207-6631 | www.rackmoutsolutions.net

MovinCool Office Pro 63 sold by Rackmount Solutions



Like its sibling the Office Pro 60, the MovinCool Office Pro 63 delivers up to 60,000 BTU/hr of cooling capacity and is ideally suited for the demands of large office spaces and heat-sensitive electronics installations. This portable air conditioner is self-contained and operates on 460V power for as little as 15 cents per hour.

- Programmable digital controller enables weekend and after-hours cooling
- Provides cooling in the low 60s to maximize the life span of heat-sensitive electronics
- Condensation pump included for uninterrupted operation
- UL Listed for safe operation

Best For: Large office spaces and computer rooms filled with heat-sensitive electronics.

Price: \$12,495

Contact: (866) 207-6631 | www.rackmoutsolutions.net

Testing Server & System Setups

Performing Tests Is Vital To Knowing What Your Data Center Can Handle

by Dan Heilman

• • •

A SERVER OR OTHER PIECE of system equipment must show that it's ready and able to take on the workload it's given and can grow as your company grows. When it comes to mission-critical data center systems, then, testing now can prevent headaches later.

Trust Your Instincts

The most basic of all tests is done when you first set up a piece of equipment, according to Jeffrey Bolden, owner and chief technical architect at IT consultancy Blue Lotus SIDC.

"If you usually only have 5,000 users but you've been experiencing growth and you're now up to 12,000, can your system handle that? Do you know what the upper limit is? You need to find out, because it's not easy to buy and configure servers on the fly."

- *Micro Focus' Steve Dykstra*

"Anyone who's allowed in a server room should be able to set it up. Any good data center manager will have the instincts to know when something's not right from the beginning. When they're first out of the box, most servers are either close to perfect or not functional at all," he says.

"Also," he adds, "they tend to do pretty good self-diagnostics—if the fan sounds weird, don't use the server. If it's booting unreliably, trust your gut."

In the case of servers, Bolden recommends a simple boot test: Load the software running on the server and run a few basic queries against it. If it's running a new service, just start running it and see

how it holds up. If it's running an existing one, let it run in parallel for a while.

"The thing most people do is to do a switchover during the night," he says. "If there's going to be a failure, you have to figure out what the impact will be if you lose a day's worth of transactions. If that's intolerable, you have to think through your server transition very carefully."

New Isn't Always Perfect

Where testing is most crucial is usually when there's new equipment involved. A new deployment can mean more expansive testing that usually involves first testing the functionality, running through architectural

Key Points

- Define mission-critical functionalities and test those first.
- If you're a data center manager, trust your instincts while testing equipment.
- Don't take for granted that new equipment will work perfectly out of the box.

Just The Basics

In many data centers, the threshold for quality has risen so much that managers are expected to test every functionality. However, some are content to test only the critical functionalities of a piece of equipment instead of every functionality path. So what qualifies as a critical functionality? That varies by business, but every business has it.

"Critical functionality is whatever is revenue-generating or of core importance to keep the business running on an everyday basis," Dykstra says.

Companies that don't depend on their servers for mission-critical functions may be able to get by without a full-on testing strategy, let alone the onsite testing labs that some companies have.

"If you don't have time to test everything in your system, then understanding the risks in different pieces of functionality is important," Dykstra says. "People can test their most critical functionality. It's important to understand what your risks are and weight them so that you can test the most important things even if you don't have time to test everything."

Some companies are even content to perform what Sue Raisty-Egami, founder of Sure Product Consulting, calls a "poor man's test and certification plan" prior to running new equipment or rolling out new server software. Raisty-Egami says virtual machines—or VMs, isolated operating systems residing inside your regular OS—can be a great help in these cases.

"Virtualization is your friend," Raisty-Egami says. "[Get a virtualization program and] create test VMs with the OS and applications already in your environment. Snapshot it so you can use it for future testing down the road. Then, install your new server in the VM."

Raisty-Egami also recommends diligent documentation as part of the testing sequence: Keep close track of what worked, what didn't, and why.

"Create a spreadsheet listing all your test cases," she says. "Focus particularly on integration points between software packages. Also, make sure the version of the new product you want to roll out is officially supported for integration with your other packages." **P**

components to make sure they're all connected, and making sure the functionality is working as expected on the target platform on which the equipment is deployed.

This all might sound obvious, but one of the first rules of system testing is to take nothing for granted, according to Steve Dykstra, director of product marketing at Micro Focus (www.microfocus.com).

"If a system is new, you would expect all the critical functionality to be there, but you should also expect them to be tested," Dykstra says. "That's the minimum. We have a lot of customers who say, 'If it's something that we expect to work, then we absolutely have to test it.' Gone are the days when you could get by with a minimum amount of testing and throw a system over the wall."

Performance testing is critical to make sure your new equipment can reach the scalability limits you need. Will it perform at the target level of peak users that you expect? And what scalability limits do you have? When you're monitoring the system, do you know what scalability trouble spots you should look for?

"If you usually only have 5,000 users but you've been experiencing growth and you're now up to 12,000, can your system handle that?" asks Dykstra. "Do you know what the upper limit is? You need to find out, because it's not easy to buy and configure servers on the fly."

Get Help From Outside

How much testing you do yourself depends on your expertise. If you're not sure you know what to look for when testing servers or other enterprise equipment, vendors and outside consultants can sometimes help, says Steve Dykstra, director of product marketing at Micro Focus (www.microfocus.com).

"Some vendors have testing capabilities, while others rely on partners that have particular testing expertise," he says. "If you're not going to do the testing yourself, ask questions—make sure they've done this stuff before."

You also want to make sure to find out what kind of test you're getting, according to Dykstra. "Are they just finding out whether the system scales properly, or are you getting diagnoses and fixes for potential problems?" he asks. "Without diagnosis expertise, you're not solving the whole problem."

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Monitoring User Activity

Keep Your Data Secure & Your Network Humming Along Safely

by Holly Dolezalek

• • •

MONITORING USER ACTIVITY has never been a simple task. But as more workers telecommute and use smartphones, tablets, or other mobile devices to get the job done, keeping an eye on what they're doing and how they're doing it becomes more challenging all the time.

So what do you need to worry about? Do you want to just monitor users' activity or would you like to enforce a policy around that activity? Are you looking to store the information you gather for a possible later investigation or to keep an active eye on what users are

Key Points

- User monitoring can be helpful both in preventing troublesome behavior and in analyzing how employees are doing their jobs so you can plan and provision better.
- Tablets and smartphones are less open to monitoring than desktops are, and if they're the property of the employee rather than the company, you'll have less flexibility for monitoring what employees are doing on them.
- You can have a healthy network with all servers patched and all systems updated, but you have to also monitor the patches and updates for the mobile devices that are accessing it remotely.

doing? User monitoring isn't only about preventing bad behavior; it's also about analyzing ordinary behavior to make decisions.

Here are several areas where you need to at least be thinking about what activity to monitor and how you should go about doing so.

Email

Most IT directors would say that they have this covered, and that's probably true, as long as you're talking about corporate email. But what about personal Web mail accounts? Users who are out in the field with tablets in their hands may have sensitive company data that they send from their corporate accounts to their Web accounts, and Ron Penna, chief strategy

"The more you have Facebook and things like it bleeding into real work, internal policies and procedures become less reliable. Social media sites mean that companies have a lot less control than they used to."

- SolarWinds' Denny LeCompte

officer for Awareness Technologies (www.awareness technologies.com), points out that that's an area where monitoring, or at least a policy, might be necessary. "That's a big security hole, and you can stop that kind of thing if the employee is on a PC, but you can't stop it if they're using a tablet or a mobile device," Penna says.

Web Surfing

Tracking users' Web surfing habits may be one of the most well-traveled areas of user monitoring, but many companies don't even have a Web filter installed. And that's true despite the fact that certain Web sites, particularly social networking sites, are posing more of a challenge to corporate data security than ever. Even if your company isn't mandated to keep track of all communications, including communications over sites such as Facebook and Twitter, monitoring employee usage of those sites may be crucial. You don't just have to worry about the possibility of a productivity drain if employees are spending too much time on Facebook; you also have to consider what data breaches they may be committing in the interest of being more productive. "We've worked with hospitals where nurses would exchange protected healthcare information over chat or a mobile phone or Facebook during shift change," says Jeani Park, senior director of product strategy for SpectorSoft (www.spectorsoft.com).

The good news is that you can restrict sites piece by piece instead of just blocking the whole site so that there's less to monitor. Penna points out that any good Web filtering system will have the ability to block certain parts of Facebook or LinkedIn so that your employees can continue using those sites without using the functions that could result in a data breach.

But one thing to keep in mind is that policies and monitoring don't necessarily help with some aspects of social media sites. Phishing scams and uncensored employee statements on Facebook are hard to detect through traditional monitoring tools, and they're also the kinds of situations that can be most damaging to a company. "The more you have Facebook and things like it bleeding into real work, internal policies and procedures become less reliable," says Denny LeCompte, vice president of product management for SolarWinds (www.solarwinds.com). "Social media sites mean that companies have a lot less control than they used to."

It's also worth keeping an eye on bandwidth usage when it comes to Web surfing. Although it is a significant concern for companies whether employees are wasting a lot of time on Facebook or downloading explicit

material to their hard drives, it only becomes an IT concern once it affects network performance. That's why it's worthwhile to monitor Web traffic, such as streaming video or radio. "There are tools that can detect whether people are listening to Internet radio," LeCompte says. "That might seem innocuous, but if you have 30 to 40 people streaming

Remote Considerations

Mobile devices are equipped with GPS tracking so that their physical location can be monitored. That can be handy when you have a sales rep you know is supposed to be in Detroit but whose iPad is in Las Vegas. But it can also help with provisioning. "If you have two offices and you don't know how often your reps are using one or the other, you can use that location data to find out who's going where and even whether you need the office space you're paying for," Park says.

It's also important to keep track of remote access. If your company starts distributing tablet computers or other mobile devices to field agents—or simply allowing them to use their own—you'll want to monitor how they're logging in to the network. But you'll also want to keep careful track of patches and updates for those remote devices, because one of the most common things employees will likely want to do with them is access their desktops remotely. "If you're going to open up capabilities for remote access, you have to make sure the devices employees are using to do it are in good health," says Phil Bousfield, general manager for GFI Software's Infrastructure Business Unit (www.gfi.com). □

Content Monitoring For Mobile Devices

Although some companies monitor users for what files they access, others go the other direction and monitor the files for who has accessed them. There are monitoring tools that give the user a warning or reminder about accessing the file or about sending it somewhere else unencrypted.

However, Ron Penna, chief strategy officer for Awareness Technologies (www.awareness technologies.com), warns that that kind of access control isn't easy—or necessarily even possible—on many of the mobile devices that employees are using. "In the desktop environment, you can restrict access to content—or the ability to send it out—if, say, it includes Social Security numbers or street addresses," Penna says. "That can't be done on phones or tablets, because the OS makes it impossible to inspect content at that level. There's a lot of pressure on Android and Apple to make their OSes capable of doing content-aware monitoring, but for right now, it just isn't an option."

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Grads Lack BI Skills, Study Shows

Most employers say that recent graduates lack BI (business intelligence) skills and experience, and a recent study sponsored by the Business Intelligence Congress points to some of the reasons.

Part of the problem has to do with a lack of widely accepted curriculum guidelines, says study co-author Dr. Barbara Wixom, of the University of Virginia. "I think the water is muddied by not having field-level curriculum guidelines for what a BI class should actually contain," she notes. "SIGDSS (the Special Interest Group on Decision Support Systems) and TUN (the Teradata University Network) are working on that. We plan to have a proposed BI elective curriculum ready for our national academic conference this summer."



Of course, different disciplines may develop their own criteria, but Wixom says that should not be an issue: "In the end, my guess is that computer science and business will each have their own BI curriculum standards, which is just fine. But having no standards is a problem."

Strong Grounding

The study, entitled "The State of Business Intelligence in Academia 2010," also points out what may be a more serious problem: Although BI is informed by both business and technology concepts, students often come away from their study with a strong grounding in one area but a paucity of knowledge in another.

"A technical person with no contextual understanding and a non-tech business-person are of little use for a BI job," Wixom says. "I think this can easily be addressed by 1) more cooperation within universities (e.g., students allowed to take classes in both business and technical schools to craft a broader BI experience) and 2) greater understanding about exactly what skills BI students need. Those of us involved in the BI Congress and survey efforts are trying hard to promote these ideas to universities and rally change."

Another troubling issue is a lack of real-world experience. Students read about BI issues but are rarely offered the chance to engage in realistic BI activities or to work with real-world tools. "This is a huge deal," Wixom says, "but it's easily addressed by 1) university professors better leveraging the amazing free vendor alliance programs that already exist and 2) more engagement from corporations with academia."

Wixom says companies are the ones that ultimately need to donate the data sets, internships, case study sites, business vignettes, and speakers that will help professors to offer realistic coursework—and businesses are, in the long term, the ones that would benefit most from doing so.

by Rod Scher

by Robyn Weisman

• • •

YOU'VE TAKEN THIS WHOLE virtualization thing to heart, consolidating your servers and even migrating certain departments to a VDI (Virtual Desktop Infrastructure). But in this move to make your data center more agile and energy-efficient (among so many things), you're running into an IT bottleneck because your legacy storage just can't seem to keep up with the new demands posed by your virtual environment. And the problem with sticking to your legacy storage is that you run into all kinds of performance problems, says Ed Lee, lead architect at virtual storage solutions provider Tintri (www.tintri.com).

Lee has seen many instances where an SME has virtualized, say, 20 to 30% of its infrastructure and discovers it cannot virtualize the next 10 to 20% without spending boatloads of money. "By that point, it's much harder to debug your infrastructure because you've already got a bunch of applications running on this legacy storage, and so if one virtual machine is suffering, you can't tell why it's suffering or how to fix it," he says.

Given that most data centers are still running hybrid environments, you don't have to run out and replace all of your storage en masse. However, you do want to make sure that the storage you purchase from this point forward can keep up with your virtualization architecture. Here are some things to keep in mind.

Think In Terms Of I/Ops

As the density of virtual machines grows, it drives more I/O traffic to storage, which can cause obvious gridlock. This issue is especially common when organizations implement VDI, says John Sloan, lead analyst at Info-Tech.

"In the past, a professional firm with a modest number of Windows servers would consolidate those servers, connect them to an iSCSI or Ethernet-connected SAN, and get good enough performance from that platform," Sloan says. "But when that same firm wants to roll out virtual desktops to all 500 of its professionals, those 500 virtual desktops are driving a lot more I/O traffic to that storage, which can't handle it."

Because throughput has become so important in a VDI environment, IT needs to re-evaluate how it judges the cost of storage. People have tended to focus on cost per gigabyte, but if you need to increase your I/O capacity, SSD and flash drives may end up being more cost-efficient in the long run. Unlike hard drives, which can only handle hundreds of I/Ops, SSDs can process thousands of I/Ops.

"So while an SSD may cost \$30 to \$40 per gigabyte vs. \$1 per gigabyte for a [traditional]

hard drive, the cost per I/Ops may end up being the same," Sloan says. "And if you need to support a VDI, it may make more sense to buy one or two SSDs, rather than buying a whole bunch of hard drives and striping the traffic over all of them."

Auto-Tier Your Storage Environment

Buying an all-SSD RAID is too expensive for most SMEs to contemplate, at least for now. As a result, auto-tiering—a storage virtualization technology designed to move data from one tier of disk to another in a nondestructive fashion—enables enterprises to control and leverage their mixed storage environments. "Your server sees its storage volume [from which] it's reading and writing data, but behind that volume, some of the actual data blocks are being written to SAS drives and others to the SSD, for example," Sloan says.

Auto-tiering is especially useful when virtualizing desktops. "At certain times of the day, such as when everybody is turning on their virtual desktops, auto-tiering lets you move those 'bootstorms' to SSDs that can handle the tremendous amount of

"At certain times of the day, such as when everybody is turning on their virtual desktops, auto-tiering lets you move those 'bootstorms' to SSDs that can handle the tremendous amount of I/O traffic going to the storage arrays so that they don't bog down. Then later [that traffic] can be moved to a different, less-expensive tier."

- Info-Tech's John Sloan

I/O traffic going to the storage arrays so that they don't bog down. Then later [that traffic] can be moved to a different, less-expensive tier," Sloan says.

Sloan points out that SSDs typically are more resilient than traditional hard drives because they have no moving parts—but that doesn't mean they're indestructible. SSDs can wear out from having data written on individual flash chips within the drive itself. "The manufacturers for enterprise-class SSDs are doing things like making sure that writes are spread out evenly across all the chips so that

Key Points

- Start thinking about cost per I/Ops rather than cost per gigabyte when buying storage for virtualized environments.
- Implement auto-tiering technologies to manage your hybrid storage environment.
- Consider buying storage that uses a file-oriented protocol such as NFS, rather than a block-level one, for virtualized storage.

the first three chips don't get written to all the time, but they do have a life cycle and have to be replaced at some point," he says.

Rethink Storage Protocols

Tintri's Lee recommends that SMEs consider NFS storage protocols when buying storage for virtualized environments. "A lot of small shops tend to start with iSCSI because it's more of a general-purpose storage used for a wider range of applications, but for virtualization specifically, NFS is simpler, and the performance is really good," Lee says.

"Most companies are more familiar with block protocols like iSCSI and Fibre Channel because they've been around so long, but running a NAS that uses a file-oriented protocol like NFS is easier to configure and maintain, which means less money spent on that storage system," adds Chris Bennett, vice president of marketing at Tintri.

"Once you get a storage system better suited for VMs, it frees up more of the general-purpose storage to service your legacy applications, giving you the biggest bang for your buck," Lee says. □

Testing Your Virtualized Storage

If you're planning to move toward using storage virtualization to manage at least a portion of your overall data center storage, first figure out what goals you're trying to achieve, says Chris Bennett, vice president of marketing at Tintri (www.tintri.com). "Identify one or more pilot projects to experiment with and learn first-hand the most effective way to move forward," he says.

And while you probably want to avoid using a mission-critical application as your virtualized storage guinea pig, make sure you pick something that is demanding from an I/O perspective but can be put offline or is a periodic process. "Pick a good moderate application with a good amount of I/O needs and think about the kind of storage that will work best for this application," adds Ed Lee, lead architect at Tintri. "You're going to be continually investing money into this, so you want to think about what's going to work well for running these VMs."

FEATURED PRODUCT

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Chenbro's RM235 Lineup Will Meet Your Enterprise Needs

CHENBRO HAS ADDED to its popular modular chassis products with its new line of RM235 modular storage chassis. In all, there are five configurations available with support for eight, 12, or 24 bays. The modular, high-density design is ideal for data duplication, broadcast storage, network accelerators, and other environments that require a large amount of storage in a 2U rack space.

Backplane Design

Chenbro designed the RM235 so that the chassis base or drive module can be recycled if you need to change configurations down the line, which is a good fit for organizations that need flexibility with their storage. The RM235 comes in three standard Mini-SAS backplane (8 x 3.5-inch, 12 x 3.5-inch, and 24 x 2.5-inch) options, and it supports Mini-SAS expander backplanes of 12 x 3.5-inch or 24 x 2.5-

inch. The various backplanes provide you with hotswap capabilities, and you can access it all from the front cage. All the backplanes feature SATA ports that run at 6Gbps to deliver fast I/O for your business.

Ease Of Access

All models of the RM235 support tool-less 1U sliding rails that allow the modular server to be pulled out of the rack just like a drawer when it requires service. Additionally, the front access drive cage can be easily switched among the standard and expander backplanes. In the RM23508, there's even sufficient space to mount a 2 x 3.5-inch internal OS drive and install one slim ODD inside the chassis. The RM235 supports motherboards



up to 12 x 13 inches (ATX, CEB, and EEB), and you can select main boards that operate either Intel or AMD DP quad.

Features

The RM235 line is offered with either a 2U single or 1+1 redundant power supply, the latter providing a

Chenbro-optimized C2W-5620V and C2W-5820V PSU. The flexible power supply choice means that the server can meet a wide range of applications, and you can alter it to suit the different needs of your enterprise should you opt to use the server for a different job in the future. For security, there's an intrusion switch, and Chenbro includes a 600mm cable to

give you some extra room when routing the cable through the chassis. You'll also find two front USB 2.0 ports for convenient access for peripherals and other USB devices. To cool the RM235, there are three 80mm pulse-width modulation fans that feature anti-vibration mechanisms. 

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RM23512E2-L	6Gbps Mini-SAS w/Expander	Option	Low Profile	Option
RM23524M2-L	6Gbps Mini-SAS	Option	Low Profile	Option
RM23524E2-L	6Gbps Mini-SAS w/Expander	Option	Low Profile	Option



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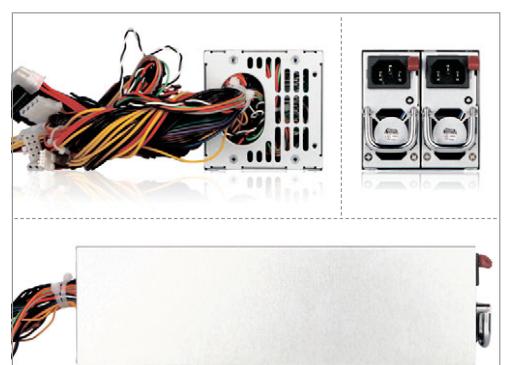


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FEATURE PACKAGE

Tablets In The Enterprise

What future, if any, do tablet PCs have in your enterprise? We rounded up some advice from industry insiders to help guide your planning.

Are Tablets Right For Your Business? | 26

■ The unique form factor of tablets creates plenty of opportunities for their use in certain business situations, but like smartphones, they aren't necessarily a great fit for all situations or even all business types.



Tablet Buying Tips | 27

■ Buying tablet computers for the enterprise can be tricky, given the strong opinions and preferences that can crop up among users. Here are some tips on what to think about during the next purchasing round.



Securing Tablets In The Enterprise | 28

■ IT security managers are rushing to analyze the potential risks, craft strategies, and deploy solutions designed to secure tablet PCs.



Network Access Considerations For Tablets | 29

■ Should we allow tablet computers on our corporate network? Over the next year, organizations that haven't already answered this question will have their hands forced by the growing ubiquity of these devices.



Are Tablets Right For Your Business?

Tablet Integration Succeeds When Business Conditions Are Met

by Christian Perry

DESPITE BEING MARKETED primarily for the consumer market, tablets have edged their way into enterprises alongside conventional laptops and other devices designed for business use. As IT managers discovered with Apple's iPhone, employees tend to bring their personal devices into the workplace regardless of company policies. However, like the iPhone, the iPad and other tablets are carving a niche in the enterprise space that's helping the devices to develop a relatively solid business reputation.

"Tablets hold a huge promise for enterprises of all sizes and shapes," says Pól Sweeney, chief technology officer at AirClic (www.airclic.com). "The positive impact they can have on the quality of experience for customers and workers has the ability to significantly enhance productivity and efficiencies—key differentiators in gaining a competitive edge."

Indeed, the unique form factor of tablets creates plenty of opportunities for their use in certain business situations, but like smartphones, they aren't necessarily a great fit for all situations or even all business types. Identifying environments and situations where tablets do or don't make sense can help businesses make better informed decisions on their use and in the development of policies.

The Right Fit

According to Mihir Panchal, mobile practice lead at Model Metrics (www.modelmetrics.com), tablets are generally a good fit for enterprises because they boost email reading and writing efficiency, provide an effective method for taking notes during meetings, and don't present the "wall" created by conventional open laptops. While those benefits can be realized in enterprises across any industry, particular businesses and employee types can find even more value.

"Tablets are particularly effective in both sales and service industries facilitating extreme multitasking," says Jan Timothy Woodcock, global telecom and media partner at Wipro Consulting Services North America (www.wipro.com). "In sales, a tablet's very form allows the user to point and drill into a presentation with his hands, transition to order management, and then update CRM all on the same device while connected to 4G—which, of course, permits mobility. In the service sector, you might find a repairman using his hands to fix something while accessing a service manual on a tablet with his elbow."

Global operations could also benefit from the use of tablets, Woodcock says, because workers can utilize presence, location, and 4G



to instantly create a global conference to solve a business issue.

In turn, Woodcock notes, this reduces the "transaction cost of global business delivery."

Sweeney adds that environments where information is gathered on an ongoing basis have seen an influx of tablet use in the past 12 months, including hospitals and clinical laboratories, transportation and logistics operations, and services sectors. And though environmental conditions such as weather and harsh in-the-field conditions have prevented the use of tablets in the past in such areas, tablets are improving in this area.

"Tablet producers are offering devices that are more rugged than ever," Sweeney says. "Additionally, they are offering a wider range of capabilities and functionalities across traditionally challenging environments, making them much more effective. Software products built well for tablets and the activities mobile workers perform can radically increase the effectiveness of the device and the user in all environments."

Not So Fast

Although tablets continue to make a case for usage in business environments, their presence isn't always a slam-dunk guarantee for success. For example, Panchal says that tablets aren't ideal in environments where workers are performing heavy content creation, such as presentations, large (or longer) documents, or complex spreadsheets, due to the cumbersome

nature of the tasks when compared to using laptops or desktops.

Tablets aren't yet an ideal solution for data entry, either.

"Heavy data entry, such as purchasing, HR, and similar areas, are not benefitting as much from a tablet at this point," says Peter Eckert, chief creative officer and co-founder of projekt202 (www.projekt202.com). "Keep in mind, though, that most solutions in that space are very complex—think SAP. If the solutions would be tailored toward the tablet better, then most enterprise-level things could also be done with a tablet."

While Sweeney acknowledges the trend toward ruggedizing tablets, he also says that using tablets in a primarily wet environment or on a construction site where end users are wearing gloves would not be considered appropriate uses of the technology. Granted,

Key Points

- Tablets are a good general fit for enterprises due to their inherent ability to boost email and note-taking efficiency, though certain industries can obtain even more benefits from the devices.
- Workplaces requiring heavy content creation and data entry, along with those possessing certain environmental conditions, don't represent ideal settings for tablet deployment.
- Determining whether tablets are a good fit for your organization depends on the role of the users, their activities, and the capabilities they require in a device.

he adds, the incorrect introduction and application of any tool will cause it to be ineffectual, so it's tough to blame tablets for not fitting into these areas.

Making The Choice

Determining whether a tablet is right for an organization depends on the ability of the enterprise to evaluate the tool within the confines of its business. Panchal recommends that organizations select several different groups or divisions for a pilot phase that is carefully controlled to get accurate feedback on what worked well and what didn't. Further, because many employees already bring their own devices to work, it might be possible to conduct surveys with those people to see how they use them.

"The starting point should always be to understand the role of the user, the activity they will be involved in, and the essential capability they need to do their job effectively," Sweeney says. "It is key to make sure that the tablet does not hinder productivity. Then, the environmental conditions will define further usability requirements that must be met in terms of physical requirements and essential applications. Based on this, a small range of devices should be identified and assessed with real user interaction in the field."

Eckert adds that if the productivity software or other software package an enterprise plans to use will be launched in a Web browser, it might be best to stay away from tablets due to their form factor, which requires touch to perform actions. Similarly, purchasing environments with order entry systems that require orders to be entered through keyboard input should also probably avoid tablets. However, he says there are plenty of workflows that are perfectly suited for tablets. □

Tablets On The Rise

According to a recent report conducted by Dimensional Research and sponsored by Model Metrics, tablets are enjoying increased enterprise adoption. However, this increased popularity isn't being met with a big uptick in tablet strategy, based on a survey of 448 business stakeholders and IT professionals. Here's a look at several key findings from the survey.

- 22% have formally deployed iPads or other tablets
- 72% have iPads or other tablets in use today, but they have not been formally deployed
- 41% of iPads and tablets are used by individuals who have purchased their own
- 78% plan to have tablets deployed by the end of 2013
- 51% report no clearly articulated strategy for adopting iPads and tablets

SOURCE: "ENTERPRISE iPAD AND TABLET ADOPTION: A SURVEY," DIMENSIONAL RESEARCH, MAY 2011.

FEATURE PACKAGE

Tablet Buying Tips

What's Right For Your SME? Here Are Some Guidelines For Purchasing

by Elizabeth Millard

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BUYING TABLET COMPUTERS for the enterprise can be tricky, given the strong opinions and preferences that can crop up among users. Now that Apple's iPad is making such inroads in the tablet world, the devices are more popular than ever before, and IT managers need to decide what's best for the enterprise. Here are some tips on what to think about during the next purchasing round.

Choose What's Supportable & Securable

Enterprises should evaluate tablets that can enable productivity for the workforce but are also manageable, supportable, and securable, says Rob Shaughnessy, CTO of Circadence (www.circadence.com).

"Enterprise organizations must consider the objectives for the deployment of tablet computing platforms, the applications that will be used, and how the devices will be brought under existing enterprise management tools, including policy controls and enforcement," he says.

These requirements can only be met by choosing devices and platforms that the enterprise administrators have control over and can customize in-house as needed, he adds.

Understand The Limitations

There are distinct differences between tablets and laptops that organizations must keep in mind, Shaughnessy notes. Tablets have less computing power, more difficult heat dispersion, fewer networking options, more challenging upgrade options, and limited storage capabilities, he says.

"Also, tablets are much more limited in their ability to connect to peripheral devices and have limited physical interface options," he says. "Applications that support mobile devices, including tablets, have limited feature sets."

Shaughnessy believes that it's critical that enterprise administrators understand all of the differences between the traditional applications and their mobile equivalents being utilized.

Evaluate The Technology Refresh Cycle

Tablet computing platforms have a life cycle that's closer to a smartphone than to a laptop or desktop computer, Shaughnessy notes. Because of this, it can be challenging to develop technology refresh plans.

When buying tablets, it's important to evaluate this technology refresh cycle to see if the duration of tablets can fit in with long-term enterprise IT budgets.

Determine The Business Use

There are various ways in which employees might use tablet computing, and an IT department needs to look at the business-case usage when doing purchasing,

according to Nicholas Arvanitis, principal security consultant at Dimension Data (www.dimensiondata.com).

"Some users may require more access to applications and resources than others based on their role within the organization," he says. "This might result in different classes or user roles that need to be considered. Of course, this has considerable implications when users will deal with sensitive data or applications, especially in situations where data is protected by regulatory or compliance requirements."

Once the use cases have been understood and documented, the organization should map out the data flows based on the systems and data access requirements of the various use cases, Arvanitis advises. This will assist the organization in understanding how to craft and design the appropriate policies and procedures to protect that data in accordance with the sensitivity and classification of the data.

Change Policies Before Buying

Arvanitis adds that the enterprise must also understand that existing policies, procedures, and guidelines will need to be updated or created to specifically address tablet devices.

Depending on the policy and the enterprise's requirements for securing these platforms, the organization may also need to consider and evaluate mobile device management solutions. "At the very least, an enterprise should have technical policies that

Best Tip: Standardize

Much like smartphones or desktops, having a multitude of different brands in an enterprise can be tricky for support. Although users may balk at having to use a tablet that's chosen by

IT rather than themselves, they need to be focused on work-centric usage, advises Rob Shaughnessy, CTO of Circadence (www.circadence.com). Standardizing on one platform is the most effective

Key Points

- Choose tablets that can be controlled and customized in-house for greater manageability and security.
- Tablets have unique limitations, such as less computing power and fewer networking options, that IT managers should keep in mind when purchasing.
- Determine whether the shorter technology refresh cycle for tablets fits in with the enterprise's overall IT budget.

can be deployed to the devices to lock them down to some degree," he says. Acceptable-use policies should state what platforms and software will be supported by the enterprise and should be updated regularly to include what will be permitted or prohibited.

"This is a critical step that must be handled with care by the organization," Arvanitis says. "Much of the appeal of mobile devices is the freedom they offer users to interact and collaborate. Overly restrictive policies may alienate users and result in the violation of such policies."

Consider Network Access

Finally, network access considerations must come into play, Arvanitis notes. The very nature of tablets is that they enable mobility and flexibility for users. Consequently, organizations will need to assess the robustness of wireless networks and quality of service, as well as remote access and connectivity options such as VPN and accessible Web services. (For more information on controlling network access for tablets, see "Network Access Considerations For Tablets" on page 29.)

"Organizations should also consider the impact of extending unified and converged communications solutions to these endpoints and potential impact of such applications on network bandwidth, especially in the case of streaming media and video," he says.

Overall, the functionality of tablet computing can be a boon to business, but the devices should only be brought into the enterprise if they can mesh well with the existing infrastructure, be supported without a significant increase in expertise, and operate within the organization without sparking any security or policy concerns. □

IBM Makes A Memory Breakthrough

Researchers at IBM have demonstrated a new memory technology, called phase-change memory, or PCM, that's capable of retaining multiple data bits per cell for extended periods of time, even without power. With this evidence in hand, IBM proposes PCM as a viable replacement for flash memory, which currently serves as the storage technology used in consumer-based devices such as smartphones, as well as cloud and enterprise data storage applications.

IBM's PCM approach has significant advantages compared to flash. According to Dr. Haris Pozidis, manager of Memory and Probe Technologies at IBM Research in Zurich, "Endurance is certainly high on the list. . . . PCM can be written to over 10 million times, which makes it a suitable candidate for enterprise-class storage and cloud computing." Pozidis also notes that PCM can write and retrieve data 100 times faster than flash. The practical benefit of that kind of speed increase is computers and servers that are capable of instantly booting.

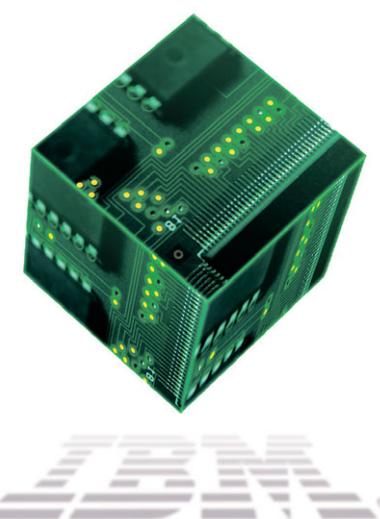
Prior to IBM's breakthrough, the only reliable way to use PCM was to store a single bit per cell, but IBM was able to multiply PCM's potential using advanced modulation coding techniques, which prevent the shifting of resistance levels over time that typically lead to read errors in multi-bit PCM.

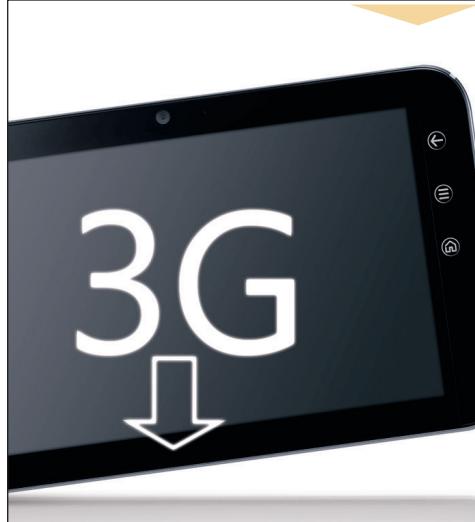
Beyond Flash

IBM is not the only organization turning to PCM as a viable alternative to flash. Others are exploring how carbon nanotubes might accelerate the development of PCM. Pozidis points out the similarities between the two approaches, saying, "In the carbon nanotube-based PCM, the goal is to explore the scaling limits of PCM by making tiny electrodes (the carbon nanotubes) that [interface with] the phase-change material, in very much the same way that today's top and bottom metal electrodes contact the phase-change material in fabricated cells. . . . Although these devices show the potential of PCM, it is not clear how to manufacture such PCM cells with carbon nanotube contacts using today's large-scale semiconductor manufacturing processes."

Pozidis also sees applications for phase-change materials beyond replacing flash—for example, in reconfigurable logic applications such as in field-programmable gate arrays. "A very exciting potential application gaining a lot of attention recently is in cognitive computing, where PCM is used for both memory and logic functions, possessing characteristics akin to those of the human brain," Pozidis says. Based on current manufacturing limits for flash, Pozidis estimates that we'll see enterprise applications that use PCM-based memory following hot on the heels of consumer-based devices by 2016.

by Andrew Leibman





3G Tablet Sales Disappoint

According to IDC, global media tablet shipments dropped 28% in the first quarter of this year, to 7.2 million units. IDC says that overall economic conditions helped contribute to the lower-than-expected tablet shipments in the first quarter. Seasonal factors and consumers' apparent reluctance to subscribe to the compulsory data plans that carriers have bundled with 3G/4G media tablets have also contributed to the drop. Despite the minor hiccup, IDC still thinks tablets have a bright future; the firm raised its shipment forecast by 3.1 million units, to a total of 53.5 million units shipped this year.

HP Reshuffles Execs, Names New webOS Leader

HP announced that Jon Rubinstein, the man behind the webOS operating system HP acquired in its acquisition of Palm last year, will take on a "product innovation role" within HP's PSG (Personal Systems Group) as senior vice president for product innovation. Stephen DeWitt, who led the PSG Americas Region, will take Rubinstein's place as senior vice president and general manager of the webOS global business unit. Taking Dewitt's place will be Stephen DiFranco, former general manager of HP Solutions Partner Organization-Americas. Todd Bradley, HP vice president, PSG, says that DeWitt's proven ability to "build and scale organizations into global, multibillion dollar operations" leaves him confident DeWitt "will take webOS to the next level. At the same time, we continue to leverage the core strengths of Silicon Valley icon Jon Rubinstein to apply his considerable talents across the PSG portfolio." Beyond being responsible for all aspects of webOS business (engineering, R&D, sales, marketing, and go-to-market support), DeWitt will lead the creation of a fully integrated, global developer and independent software vendor program to deliver new consumer and business applications and lead an effort to create a dedicated mobility practice with HP's partner community, with the goal of delivering consumer and enterprise solutions globally.

China Unveils Tianhe-1 Supercomputer

The number of supercomputers has grown by one with the introduction by China of the Tianhe-1 at its Changsha supercomputer center in Hunan province. Built using the same technology as the Tianhe-1A, which for a short time held the title of the world's fastest supercomputer, the Tianhe-1 has a theoretical peak speed of 1.1 petaflops. Just last month, a new system, the K computer from Japan, took over the top spot in the supercomputing field, with a speed of 8.16 petaflops. The Tianhe-1 is expected to be used for weather forecast simulations, disaster prevention assistance, and help in industrial fields.

FEATURE PACKAGE

Securing Tablets In The Enterprise

Protect Your Valuable Information As Tablets Invade The Workplace

by Cynthia Harvey

BY THE END OF 2010, Forrester reported that 26% of enterprises were already deploying tablets or planning to do so, and experts say that many more workers are using tablets for work, even if they don't have approval to do so. In many cases, employees are purchasing the devices themselves and expecting to be able to use them for work. It's then up to IT to figure out how to secure the tablet PCs.

"It's caught the enterprises off guard, the rate at which these devices have come into the enterprise," says Shiva Mandalam, senior product manager for Websense (www.websense.com).

A Harris Interactive Poll sponsored by FuzeBox found that 48% of tablet owners transmit sensitive data with their devices. Companies don't want that sensitive information—email messages, contacts, or application data—falling into the wrong hands. As a result, IT security managers are rushing to analyze the potential risks, craft strategies, and deploy solutions designed to secure tablet PCs.

What Are The Risks?

The very characteristics that make tablets so popular with workers—their small size, 3G connectivity, the ability to download apps, reliance on cloud-based services, and Web access—can also make them more difficult to secure.

"Obviously, because [tablets are] so small and because the users are using the devices so much more than a PC . . . they're very prone to loss," observes Chad Bacher, director of product management at Webroot (www.webroot.com).

Mandalam notes that many IT departments aren't sure how to secure traffic coming through 3G networks. "In addition, a lot of the apps that are on these tablets store the data in the cloud," he adds. "You have no idea where the data is going to be residing."

Also, some tablet apps available for download contain malware that could put corporate data at risk. "We're starting to see more and more from a malware perspective specific to the Android market," Bacher says.

Employees using tablets can also fall prey to phishing, social engineering, or other

attacks that get them to divulge sensitive information. "No matter what type of device that you are using, if it's a PC or an iOS device or an Android device, users still can be spoofed into, let's say, clicking on a bad link from a phishing perspective and then going to that site and entering their information in there and having their information stolen," Bacher adds.

Develop A Strategy & Set Policies

Given the potential risks and the sensitive nature of data that flows through tablets, enterprises really have no choice but to begin establishing tablet security strategies and policies. And because company employees are probably already using these devices for work (whether they have permission to or not), IT departments need to establish these policies yesterday.

However, in establishing a tablet security strategy, IT must walk a fine line. "What they don't want to do is filter the data to such an

Key Points

- Because so many tablets are entering the enterprise so quickly and because tablets are used to store and transmit sensitive data, IT departments need to begin thinking about related security issues immediately.
- The first step to securing enterprise tablets is to create a strategy and policies that will manage risk without hampering employee productivity.
- Many enterprises are turning to software-based solutions to enforce their policies and provide a higher degree of security.

is to make sure that when you think about mobility and your mobility strategy, it has to be a cross-platform strategy that takes into account both smartphones and tablets," says John Herrema, senior vice president of corporate strategy for Good Technology (www.good.com).

According to Philippe Winthrop, managing director of The Enterprise Mobility Foundation (www.theemf.org), "The key thing to understand is that organizations, regardless of who owns the device, have to manage the devices—and not just the devices, but the actual data that is passing through or stored on the devices. That's why organizations need both a device management and an application management strategy."

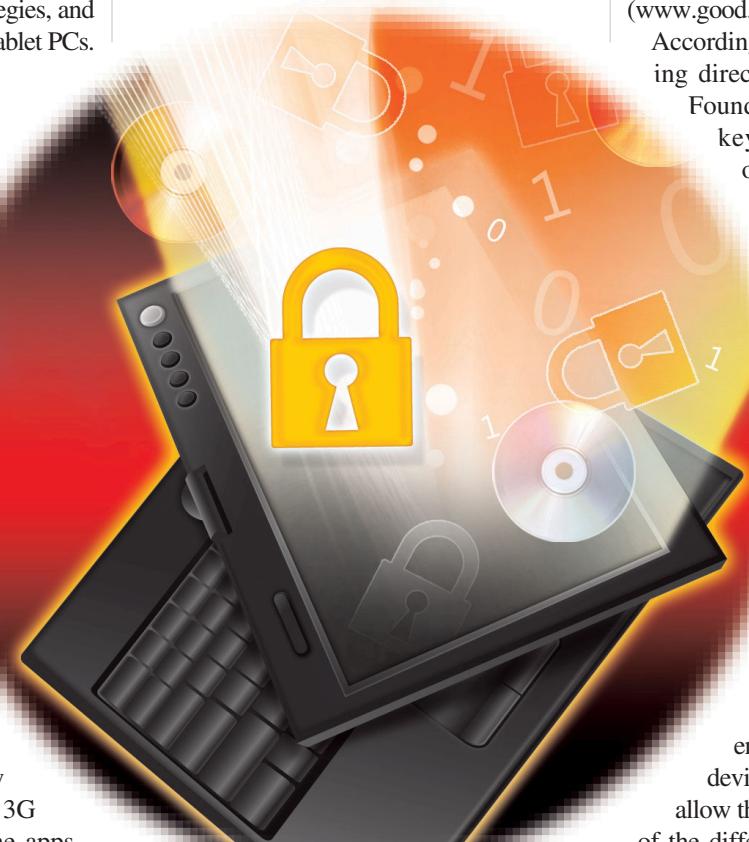
Deploy Mobile Security Software

Once strategies and policies are in place, enterprises often turn to software to implement and enforce those policies. "We're seeing a lot of enterprises moving towards mobile device management solutions that will allow them to get visibility in terms of all of the different devices that are being connected to their networks," Bacher says. "From these solutions, they are able to do things like set policies and set configurations and push those down to the particular devices."

Many mobile device management solutions allow companies to require the use of a passcode on tablets, enforce encryption policies, wipe data remotely if a device is lost or stolen, control which applications are downloaded, and block certain sites or apps, in addition to tracking which devices are connected to enterprise networks.

However, some enterprises are finding that these solutions don't provide all of the security they need. "They really don't address the issue of content security—once the data comes in there, what the user can and cannot do with that data," Mandalam notes.

Although some existing data security solutions can help protect the data on tablets, many vendors are still scrambling to figure out how to secure these devices. IT will have to watch this rapidly changing market carefully to find the solutions that will best meet their needs. P



extent that tablets are not really productive for the users," Mandalam says. "They've got to be cognizant of how the users are going to be using these devices. And based on that, they've got to set up a set of policies that really wrap into their business requirements, their risk profile, [and] how much risk that they can take when the data gets onto these devices."

No-Budget Options For Tablet Security

The cost of a good mobility management solution can quickly run into thousands of dollars, putting it out of the range of many small or medium-sized enterprises. However, Chad Bacher, director of product management for Webroot (www.webroot.com), points out that some

basic security measures don't cost anything.

He says that small organizations should begin by establishing their tablet security policies, including ensuring that everyone has a passcode set. He adds that these small enterprises should also encourage

workers to download and install the free antivirus applications that are out there. "That would give them at least some level of protection against threats that are coming in," he explains. "As they get the budget, they can increase towards an MDM [mobile device management]-type solution."

FEATURE PACKAGE

Network Access Considerations For Tablets

Create Meaningful Policies & Get Your Infrastructure Up To Speed

by Mike Chapple

SHOULD WE ALLOW tablet computers on our corporate network? Over the next year, organizations that haven't already answered this question will have their hands forced by the growing ubiquity of these devices. Regardless of platform, tablet devices are rapidly proliferating and bringing a number of vexing network access questions along with them.

Start With Policy

Even if your organization chooses not to provide employees with tablet computers, you'll still need to tackle the question of tablet device policy. The low price point and appealing consumer-oriented features mean that tablets are probably already in the briefcases of many of your employees. What happens when they bring them into the office?

The question reminds Michael Hong, senior product marketing manager for wireless technologies at Brocade (www.brocade.com), of a similar dilemma that IT shops have faced for years: whether to allow personally owned computers on the corporate network. He explains that Apple aficionados already brought this question to the attention of IT staff at almost every enterprise and that "every well-run Windows shop has a policy addressing this issue. This policy should be the foundation for tablets and other wireless devices, as well." He warns, "Creating a double standard for tablets will only create confusion and the perception that IT leadership is out of touch."

Hong takes a dim view of organizations that choose to outright prohibit tablet devices. "To disallow tablets and similar devices on enterprise networks means that the company is putting itself at a disadvantage to competitors," he says. "They are not putting the right productivity tools in the hands of high-value, high-performing employees while the rest of the world is already moving past the question and on to solutions."

User-Based Access Control

Trent Fierro, director of marketing at Avenda Systems (www.avendasys.com), has found that the users bringing tablets to his client organizations are using them in addition to laptops, desktops, and smartphones rather than replacing any of those devices. He suggests that it's much easier to keep on top of security requirements if you have a sophisticated authentication infrastructure. "Organizations need to find a smart way to manage policies that are all tied to a user," he says. Fierro suggests asking the following questions when designing an access control infrastructure for tablets:

- Do you allow the same access to critical data on tablets as on other devices?
- Do you limit access based on device ownership?
- Can you differentiate access controls based on device location?



clients are moving to cloud-based services as an easy solution to this problem.

Control Network Access

One of the major issues facing organizations that allow tablets on their networks is assessing and managing the security posture of those devices. Standard security controls, such as antivirus, antispyware, and device monitoring software, simply aren't available for most mobile platforms.

Hong advises compensating for this shortcoming by treating tablets as "risky" devices. "Any device that is considered risky should be isolated to a separate network segment from all of the trusted devices that have confirmed and validated their cleanliness," Hong says.

Key Points

- The low price point and popularity of tablets among consumers means that users will be trying to connect these devices to the network on their own terms if you don't get ahead of the curve.
- Create policies on tablet use before implementing any technical controls. Will you provide devices, or are employee-owned tablets OK? Will you allow users the same access to data on tablets as they have on other devices?
- Make sure your infrastructure is ready for tablets. The usage patterns of tablet devices will place additional strain on your network.

He suggests the best solution may be placing tablets, especially those that are personally owned, on a guest wireless network where they are placed on the untrusted side of the firewall and only have access to the Internet.

One alternative approach, according to Schectman, is to implement a mobile device management solution. These products "make it easier to track and protect mobile devices as well as make sure that they adhere to corporate guidelines, policies, and compliance regulations," he says. This advice rings especially true for corporate-owned devices, where you have full discretion over the software installed on the device.

You might have a harder time convincing employees to submit their personal devices to your management platform and may wish to consider making such management a prerequisite for connecting to the corporate network. Be sure to consider the troubleshooting and support burden that comes with installing enterprise management software on a personally owned device.

You'll no doubt find that it becomes the default problem whenever a user experiences a device issue.

Maintaining records of user access is also a question to consider, Hong adds. "It's important in many situations to have historical data that matches a user and device to an IP address," he says. "This data can be used for troubleshooting and compliance requirements." He recommends supplementing records of corporate-owned devices with a self-registration system for any personally owned devices permitted on the network.

Tablet computers are here to stay and promise increased productivity for mobile workforces. You'll need to consider issues related to policy, network resources, and mobile device management when deciding how to connect these devices to your network. For more on this topic, turn to "Securing Tablets In The Enterprise" on page 28. □

CFOs Taking Some IT Control From CIOs

CIOs don't have the clout they once had, and their position is being taken over by CFOs, according to a study by Gartner in conjunction with two financial management organizations. The study showed that financial heads authorized 26% of the IT investments, up 15% from the previous year, indicating a lessening CIO role. About 42% of IT organizations are reporting to the CFO. These findings are ominous for CIOs, according to John Van Decker, an analyst for Gartner. "IT needs to get much closer to business," he says, or risk having control taken away.

App Store Hits New Milestone

Apple's App Store has surpassed 15 billion app downloads in the three years since it opened its virtual doors. The store now has more than 425,000 apps with more than 100,000 native iPad apps available. Apple says consumers in 90 countries have loaded apps to an estimated 200 million iOS devices. To date, Apple's app developers have earned more than \$2.5 billion.



Study: E-prescribing Still Contains Errors

A recent study published in the *Journal of the American Medical Informatics Association* revealed that e-prescriptions, like handwritten prescriptions, still contain errors. After reviewing 3,850 electronically generated prescriptions sent to pharmacies in three states, 452 of those prescriptions contained errors. Omitted information on the prescription was the most common error—seen in about 60% of the flawed prescriptions. However, 35% of the errors were actually considered harmful, potentially leading to medical problems. In order to truly reduce errors, healthcare analysts suggest a computerized prescribing system with comprehensive functionality and a meaningful use strategy before switching from handwritten prescriptions to e-prescriptions.

U.S. & Russia Join In Cybersecurity Efforts

Following President Barack Obama's International Strategy for Cyberspace released in May, the White House announced a collaboration agreement between the U.S. and Russia that will effectively work to strengthen both nations' cybersecurity policies. In a White House blog, U.S. Cybersecurity Coordinator Howard Schmidt states these efforts will link the two countries, providing successful crisis prevention communications that will improve national and international security. Although the relationship between the two countries has been strained regarding many issues, both parties reached an agreement to exchange information, while making government activities in cybersecurity more transparent.

KPMG Survey Assesses National IT Growth

China's IT revenue outpaced the United States' in 2010, but the United States has regained the top spot this year, according to the Technology Industry Business Climate survey from KPMG. The surveyed technology executives anticipate that America will see the highest percentage of revenue and employment growth throughout the next 12 months.

While these statistics may not reflect an immediately positive turn in the IT market, demand for IT products won't likely see a drop-off. "Even though our economy isn't expected to rebound any time soon, we are seeing a strong demand for technology purchases in the United States," says Gary Matuszak, partner, global chair, and U.S. leader for KPMG's Technology, Communications & Entertainment practice. "In fact, in other surveys that our firm recently conducted, retail and banking executives identified technology as the No. 1 area where they are planning to increase spending in the next year. Those investments bode well for the tech industry."

Of the 102 mostly C-level survey respondents, 77% believe their revenues will be higher a year from now. They're also relying on cloud computing to be the most prominent driver in the next few years; in fact, 65% expect cloud computing to boost profits—a significant increase compared to 54% in 2010. Behind cloud computing, mobile applications and advanced data analytics were named as the second- and third-ranked drivers.



"We see companies taking advantage of their strong liquidity and cash positions by investing in new technologies and new business models, with their biggest revenue driver over the next three years being cloud computing," Matuszak says.

Tech Recovery Still Slow

Positive forecasts don't mean everything is back to normal, however. "Last year in our survey, the tech industry was shaping up to be one of the leading industries driving the recovery," Matuszak says. "That hasn't changed, but what we found this year in surveying executives across the technology industry is that they don't expect the recovery to take hold for a few years."

C-level executives also pinpointed a number of drivers for alliances, mergers, and acquisitions over the next 12 months. "Tech executives continue to project higher revenue and anticipate continued investment in mergers and acquisitions," Matuszak says. "We will also be seeing a rather high level of merger and acquisition activity, as companies seek access to new technology and products and product synergies." In terms of headcounts, 42% of executive leaders indicated that their headcount grew in the last year.

by Joanna Clay

SIX QUICK TIPS

Test Your Security Systems

Better Assessment Of Strengths & Weaknesses Means Better Protection

by Bruce Gain

• • •

IMPROVING ENTERPRISE SECURITY remains notoriously difficult, especially for small to medium-sized enterprises with already stretched resources. For many enterprises, security is about doing the best you can with what you have, which means targeting the most lethal threats and placing less importance on not-so-risky potential vulnerabilities.

Pinpointing more lethal threats also involves testing, which represents a monumental and complex challenge in itself. There are numerous ways to assess the strengths and weaknesses of an enterprise's security layers. And, to make matters more difficult, there is certainly no single right way to go about it. However, there are some general tips to follow that can help make testing more efficient when assessing an enterprise's digital and physical security systems.

Test What Is Really Important

A good first step to take when testing security systems is to assess and prioritize an enterprise's main data assets and then focus on tests for those resources.

"The key to a good penetration test is first identifying all of your target systems," says Lawrence Pingree, an analyst for Gartner. "Target identification [is important] where changes are constant and new systems come on and offline regularly, system owners leave a company, and asset data becomes stale or out of date. So defining scope is critical."

Assessing an enterprise's security landscape also involves looking beyond ports and other potential holes and analyzing what applications are running, says Peter Lunk, director of product marketing at Juniper Networks (www.juniper.net). "You really need to assess what is running when testing," Lunk says. "Are users accessing BitTorrent? If so, how much traffic is flowing through the data center and how much exposure does it have?"

Evaluate Your Web App Firewalls

SQL injection attacks represent a common way through which today's intruders attempt to enter your network and target applications that were specifically developed for your enterprise's Web applications. Because Web applications specific to your enterprise are custom-made and

are not off-the-shelf applications, intrusion detection systems that are geared for general attacks will not serve as viable filters against SQL injection attacks.

Warding off SQL injection attacks requires Web application firewalls, which also necessitate their own sets of tools for testing. Web application firewall testing tools should serve as an integral part of the testing process when evaluating how well a network's Web application firewall can ward off SQL injection attacks.

"There is no easy answer when it comes to testing how good your security is [against SQL injection attacks], but WAF tests remain one way," says Anton Chuvakin, security consultant at Security Warrior Consulting (www.securitywarriorconsulting.com).

Take Advantage Of Social Engineering Tests

Because the human factor represents perhaps the greatest single security threat for any enterprise, social engineering tests represent an efficient way to make sure users are following policy like they should.

Examples of social engineering tests can include physically following employees through the doorway of a data center or even the building—this test helps to determine whether workers are holding the door open for potential intruders who might seek to enter without using an electronic card or dialing a security code. Calling the help desk and pretending to be an employee is a good way to see if passwords and other sensitive information are being communicated without proper authentication procedures. Accessing the data center by crawling through a vent might seem unorthodox, but it serves as a viable test to determine if the security alarm is working like it should.

But before doing any of these tests, the first step is to build an awareness program that remains an ongoing process through frequent email alerts and other reminders, brownbag informational lunch sessions, and routine training in order to build up a culture of security and a certain mindset among employees, says Joe Malec, the St. Louis chapter president of ISSA (Information Systems Security Association; www.issas.org). Social engineering tests, he says, "are a good way

Most Practical Tip:

Find Vulnerabilities With A Mouse Click

Automated tools can offer a reasonably efficient way to test for specific security vulnerabilities. "The goal of enterprises with these tools or external third-party security testing is to look for control failures and take appropriate corrective actions when a critical failure is found in the hopes that you find that failure before the attackers do," says Lawrence Pingree, an analyst for Gartner.

Setting up automated penetration tests first involves installing an agent, Pingree says. "You give these penetration tests a goal of accessing a data location point in your enterprise that you want to protect," Pingree says. "What these tools do is navigate your environment in an automated way and exploit vulnerabilities along the way to get there while telling you what they do."

Best Tip:

Do An Annual Audit

One way to reduce the complexity of security testing is to perform an internal audit on a yearly basis that focuses on just one area of an enterprise's security infrastructure, says Joe Malec, the St. Louis chapter president of ISSA (Information Systems Security Association; www.issas.org),

"An annual risk assessment should include taking different aspects of your IT infrastructure, assessing them, and then scoring them," Malec says. "The beauty of this is that when you go through and do your assessment, you discover 10 things wrong with the infrastructure, then next year you find 10 other things. This annual audit should also involve making sure that the things discovered the previous year have been fixed."

to do an audit to determine if policies are being followed by taking samples in the environment," Malec says.

Perform Routine Fire Drills

IT security alarms in many enterprises are often analogous to the fire alarm tests that take place in buildings. Too often, IT departments test to make sure that security alarms and alerts are working without ever carrying out drills when they go off. A routine security test should involve gauging how admins react when an IDS or other system issues security alerts. Are admins, for example, responding like they should? Is there also someone who can react regardless of when an attack might take place?

"It is [critical] to not just assess whether there is an alert or not, but whether or not people really know what they need to do," Chuvakin says. "So I do not want to just test the detection, but I want to gauge the whole response process all the way to the [procedures] to follow in the event of an alert." P

BONUS TIPS

■ **Become a hacker.** Using tools to penetrate the network just as an intruder would is a good way to see if your security system can block attacks. "There are plenty of Web application and other scanners," says Anton Chuvakin, a security consultant at Security Warrior Consulting (www.securitywarriorconsulting.com). "Dozens of tools exist that offer various layers of complexity and depth."

■ **Don't forget virtual security.** Data center managers are increasingly relying on virtualized servers to reduce redundancy and to save rack space. However, it is important not to forget to test whether security systems specific to virtual environments are doing what they should.

"You want to make sure that your security protection infrastructure is set up in such a

way that you keep different virtualized servers separate," says Peter Lunk, director of product marketing at Juniper Networks (www.juniper.net). "Virtual servers need to be separated like physical servers are. For example, you might have contractors who are working on virtual desktops, and you want to make sure that they are not able to access intellectual property on servers connected to the engineering department."

Key Points

- SIEM automates the collection, correlation, and analysis of log files for near-real-time reporting on a network.
- If you can easily review and understand all your network logs, you probably don't need SIEM.
- Effective SIEM implementation begins with analyzing your existing security controls and technologies and the systems that most need protection.

Security Information & Event Management

SIEM Can Provide A Single Window Into Your Entire Security Situation

BY BRIAN HODGE

The more complicated computer networks become, the harder it can be to comprehend everything that's going on at any given time. The information is there—network devices continually generate logs—but the challenge can be combing through it all for anomalies, attacks, and other significant events.

SIEM tools automate this process, typically reporting on hundreds of components in a single, configurable dashboard.

"[SIEM] allows log files to be centrally collected, correlated, and analyzed to detect suspicious behavior that could indicate an attack," says Leigh Haig, independent IT security consultant. "This will give near-real-time information across the monitored environment."

SIEM intelligence can also connect dots better than human analysis can, spotting seemingly unrelated events on different systems and determining if they're related and, thus, something that warrants immediate investigation.

In addition to spotting suspicious activity from without and within, SIEM provides

centralized log collection, maintaining integrity by storing logs away from the system—an invaluable asset if forensic investigation is ever required. It can also strengthen an enterprise's ability to police itself for regulatory compliance.

■ DOES YOUR ENTERPRISE NEED SIEM?

Although most any IT department would find SIEM handy, there are nevertheless enterprises for which it might not generate a sufficient return on investment.

Luther Martin, chief security architect of Voltage Security (www.voltage.com), suggests this easy test: "Turn on security event logging on all of your systems where it's

available. If it's reasonably easy for your IT staff to understand and review all of the logs that you get when you do that, then you probably don't need to think about SIEM."

However, if this generates more data than you can easily monitor, then SIEM could make life easier and safer, without necessarily making a huge impact on your budget. High-end SIEM products are certainly

available and are ideal for large, complex IT environments, but Martin advises that you can also find simpler, less expensive products, or even free, open-source tools that can furnish some ability to automate the analysis of your logs.

■ GETTING A SMOOTH START WITH SIEM

To lay the groundwork for effective SIEM implementation, Haig recommends analyzing the security controls and technologies you have in place to identify what logs are available to gather. Then factor in the systems for which logs should be collected to detect suspicious activity and protect critical assets.

With this base information, you can determine what level of SIEM is needed, from simple log collection to full correlation and analysis. □

Tips To Avoid Unexpected Problems

SIEM can generate huge amounts of data, especially when verbose logging options are activated. Thus, bandwidth and storage considerations are critical. Be ready to handle all that data.

When gathering logs from remote offices connected to your main location via a small network, the volume of traffic could break services used by the remote staff. Make sure your SIEM architecture is configured to avoid overwhelming these slower links.

Thinking of making your own SIEM tool to save money? "Don't underestimate how hard it is to do this," says Luther Martin, chief security architect of Voltage Security (www.voltage.com). Event logs can come in numerous formats, and even if you manage to corral them all in one place, it can still be difficult for someone to review and comprehend everything they show.



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Telepresence & The Enterprise

The Technology That Makes Meeting In Person Possible From Anywhere

by Jean Thilmany

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TELEPRESENCE HAS BEEN taking a back seat to unified communications recently, but that doesn't mean data center and IT managers shouldn't be on the lookout for the technology.

In fact, experts say more and more of the telepresence systems available today are uniquely suited for SMEs and require little setup or specialized knowledge. The problem is that definitions about what comprises a telepresence system as opposed to a unified communications or videoconferencing system vary by vendor.

Many experts agree, however, that a telepresence system is a technology that gives

Key Points

- Telepresence systems should feel fully immersive—the people using them should forget they're not in the same area physically.
- The systems are becoming more affordable for SMEs.
- Utilizing a telepresence system, enterprises can decrease their travel budgets and employees can communicate easier with suppliers and co-workers or clients in other cities.

users a high-end, immersive experience—the same as being somewhere in person. Until recently, that also meant high-end, elaborate systems that were well out of the financial reach for smaller enterprises.

"In most cases, the vendors set up everything, including the lighting, chairs, and the equipment," says Scott Wharton, chief executive officer at Vidtel (www.vidtel.com). "SMBs haven't really used [telepresence] because it's very expensive, half a million to a million dollars, just for the equipment, per site."

Videoconferencing is generally defined as a video experience that falls below the immersive telepresence experience,

"Some people are OK with scratchy mobile phones for their experience, while others will need the room-based, highest-end system. Right now, most fall somewhere in the middle."

- BT Conferencing's Marc Hambley

Wharton adds. A video conference could take place via Skype, in an enterprise conference room, or on a laptop or tablet system.

A unified system can be termed a system that marries video to voice in some way, Wharton says. What a unified system is composed of is loosely defined. For instance, Joel Barthelemy, founder of telemedicine provider GlobalMedia, says a unified communications system allows people to have a live meeting. So instant messaging counts, as do calls via cell phones.

Business Benefits

Traditionally, telepresence technology has been used mostly at large enterprises to link offices or allow co-workers who are dispersed around the globe to collaborate on projects, says Akash Saraf, co-founder of Vu TelePresence (www.vutelopresence.com).

As prices on telepresence systems come down and they become easier to install, companies manufacturing the systems are targeting their products at SMEs. Saraf says SMEs are using telepresence to interact with their customers.

Another benefit of telepresence is reduced travel costs. Employees can use telepresence systems to conduct meetings rather than fly to another destination.

Marc Hambley, senior product manager at BT Conferencing (www.btconferencing.com), says that for these types of meetings to truly feel live—that is, for attendees to forget they're not actually in the same room and to speak as candidly as they would in person—the technology needs to be truly immersive. A prearranged online conference call that includes a Web cam feed won't suffice.

"People must lose sense of the fact—after a few minutes—that they're not having an actual in-person experience," Hambley says. "Because they bring you closer to clients, you can prove the ROI of these systems."

What many vendors do agree on is that telepresence is making its way to SMEs, both in terms of price and accessibility. And the business benefits the technology can bring are many.

Enterprises will also feel the benefits of telepresence systems in the areas of price and accessibility. For instance, if you were to go the route of a cloud-based videoconferencing system in which your IT managers use the companies' pre-existing devices to communicate, you'd have to pay a monthly fee to plug the devices into the cloud and access video via the cloud. This would cost around \$30 per month.

Saraf describes another type of telepresence system that SMEs could implement easily by plugging it into any HDTV. These systems tend to cost around \$2,000. "Normally, you'd have to implement private networks, but with this, you plug it into the Internet; a good-enough Internet connection will do the job in this case," Saraf says.

These types of systems can be up and running within half an hour and require little expertise to set up and to use, he explains. They also don't call for recurring and ongoing costs.

You can also set up systems that include technology that lets attendees note their thoughts and save them as part of the telepresence session, which can often also be archived for future reference, says Ron Burns, CEO of ProtonMedia (www.protonmedia.com), a maker of 3D virtual collaborative technology.

What's Ahead?

Currently, the telepresence scene is still shaking itself out as enterprise executives and IT managers determine what their enterprises need and what they can afford, Hambley says.

"Some people are OK with scratchy mobile phones for their experience, while

others will need the room-based, highest-end system," he says. "Right now, most fall somewhere in the middle."

One thing is certain: Systems that allow users to communicate live, in whatever manner, are becoming more pervasive, says Barthelemy.

"The day of having to set up a meeting, make sure all your end points work, and get everybody on the calendar still exists, but in some respects, it needs to go away," Barthelemy says.

Instead, he predicts a future in which collaborators can be gathered at a moment's notice via whatever format—phone, video, online or other—suits each attendee's need. □

Courage Found

One little-known aspect of telepresence systems, particularly the types that let users interact as avatars in 3D conference rooms, is that they can give people the gumption to ask questions they may not ask live, says Ron Burns, CEO of ProtonMedia (www.protonmedia.com).

Not only that, but users will also approach higher-ups, even top-level executives, in these virtual rooms, when they may not have the courage (or accessibility) to approach these individuals in real life, he says.

"Humans matter, but when you're an avatar, there's a flattening of hierarchies because you're a watcher for your own behavior," Burns says.

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Symantec Study Looks At Mobile OS Security

Consumer mobile devices have invaded the business world. Tablets and smartphones are blurring the lines between home and work devices.

This has IT security heads worried—and rightly so. Although Apple's iOS and Google's Android operating systems are inherently more secure than the Windows OSes in the majority of businesses, they still pose a number of security concerns.

In a recent report from Symantec, "A Window Into Mobile Device Security," author Carey Nachenberg examined the two OSes and found iOS a bit more secure than Android in their current implementations. The former is only available on Apple hardware, and the company polices its app store. Android, in contrast, is available on devices from nearly 40 OEMs, and although there are several venues for Android apps, Google has done relatively little to vet the software in its own app store.



Improve Mobile Security Management

There are several things enterprises need to do to improve their mobile security and management posture, says Khoi Nguyen, group product manager of the enterprise mobility group at Symantec.

"Whenever possible, use security software on the devices," Nguyen says, as this can stop hackers and prevent cybercriminals from stealing information or spying on users when using public networks.

"Mobile management and security are converging just as we've seen on traditional end points, such as PCs and laptops," Nguyen says. "It's important to not only protect the mobile devices from malware, but also to holistically manage and secure the devices and apps throughout the entire device life cycle. This includes policy management, secure access, information protection, and enterprise integration."

Such converged management/security solutions can also ensure that connected devices are malware-free, capable of encryption, up-to-date, and compliant with app downloading policies, Nguyen says. "Another thing mobile management solutions can help with is enabling large-scale deployment of enterprise apps."

Phones are especially easy to lose, but Nguyen says strong passwords will help protect the data stored in the phone if a device is lost or hacked. Mobile management solutions may also supply processes and tools to deactivate a lost device.

Educating users is key, as always. "Enterprise IT should help users understand the need to click with caution. Opening emails and texts from unfamiliar senders on mobile devices is just as dangerous as doing so on PCs," Nguyen says, as are clicking links in messages and typing in sensitive information where others can see. Users should also closely review the list of device privileges requested by a new app to make sure the privileges are reasonable and acceptable.

by Marty Sems

Mobile Cloud Concerns

Key Issues To Consider When An Enterprise Utilizes The Cloud

by Sue Marquette Poremba

AS EMPLOYEES USE mobile devices more frequently to communicate with co-workers and clients, there is a corresponding increase in the number of people accessing the cloud. Computing and storage resources in the cloud perform a lot of the heavy lifting in many mobile applications today, using the devices as a presentation and interaction layer, explains John Treadway, global director of cloud computing solutions at Unisys (www.unisys.com). Whether that user interface is a native app or a mobile Web page, the effect is the same: Mobile computing is increasing the demand for cloud computing.

Cloud Differences

Some people may wonder if there is a difference between accessing the cloud from a desktop computer or mobile device.

Treadway explains that they have the same computing instances, the same storage, and the same Internet connectivity. He says where you'll find differences are in the apps that are being built and deployed. "For the most part, our laptops and desktops access cloud resources almost exclusively through a browser," he says. "On mobile devices, that's typically not the case. Instead, it's a native app that is connecting over the Internet to a cloud data center."

Another difference with the mobile cloud is that access may be limited to one key capability per application to ensure its usability on a smaller form factor vs. a laptop where it could be a much larger and complex application, says Mihir Panchal, mobile cloud lead with Model Metrics (www.modelmetrics.com). "Given the rapid adoption rate of tablets, you are now able to do some of the more complex applications directly on the device," Panchal explains. "The other difference with mobile

Key Issues

Panchal adds that before IT and data center managers can manage employee use of the mobile cloud, they have to know exactly what the key issues are that they may be facing. These include device management, network infrastructure, desktop virtualization, and app development.

Device management. Know how many devices are connected and whether they are following the policies set forth by the organization. This includes ensuring that non-approved apps are not installed, that jailbroken/rooted devices are not connected to your infrastructure, and that you can easily deploy and manage the mobile cloud apps throughout the organization. This also extends to ensuring the same policies can be enforced across the different mobile OSes that are being used within the infrastructure.

Network infrastructure. Be sure there are enough IP addresses available because users will now be using their smartphones, tablets, and laptops to connect and do different business tasks across these devices.

Desktop virtualization. For some organizations, employees will continue to need access to their desktops for some business apps. In this case, IT will need to evaluate the infrastructure necessary for providing these capabilities.

Developing apps. If the IT department is developing its own apps, staff should know what technologies they can use to ensure that the app works the same across a variety of platforms.

Challenges

The major challenge to managing the mobile cloud, says Daniel O'Leary, vice president of global solutions at LincWare (www.lincware.com), is knowing what devices are

Key Points

- Mobile computing is increasing the demand for cloud computing.
- Given the rapid adoption rate of tablets, your employees can use some of the more complex applications directly on the device.
- You have to tie cloud strategy into overall IT philosophy.

is primarily responsible for desktop and network support services or is tied to the bottom line of the company's mission.

"That's the first question that has to be answered," O'Leary says. "Is IT command and control or is IT delivering user support? You have to tie cloud strategy into overall IT philosophy. And at that point, the cloud becomes a delivery method. Mobile comes last because once you've got the cloud working, adding apps is easy when you don't have to manage the infrastructure yourself."

A major challenge for managing the mobile cloud will be managing security policies, says Ajit Sancheti, co-founder of Mu Dynamics (www.mudynamics.com). For example, an organization may have a good security policy in place for the network, but then employees begin to use an online storage app. "The moment an employee adds a file to the cloud, the security policy could be violated."

In response, Sancheti says IT departments need to become more savvy to understand how to work with changes the mobile cloud will bring to security and policies. It won't be easy, Sancheti admits, especially because so many employees use personal mobile devices that are more difficult to monitor.

One way to protect the data in the mobile cloud is to make sure it is all encrypted, suggests Panchal. "IT also needs to consider

"For the most part, our laptops and desktops access cloud resources almost exclusively through a browser. On mobile devices, that's typically not the case. Instead, it's a native app that is connecting over the Internet to a cloud data center."

- Unisys' John Treadway

cloud is the ability to leverage a GPS or camera very easily, adding further context to the applications—something not easily possible via the computer."

Because of the increasing number of people using mobile devices in professional and personal environments, virtually everyone has access to and is using the mobile cloud. Treadway says a lot of enterprises with internally deployed applications are getting upgraded to support this style of access.

"People are using these devices to access sensitive corporate information, whether IT wants them to or not," Treadway says. "Once you open the door to email on your iPad, documents [become] available for viewing and editing on the device. I might be able to remote-wipe the email on an iPad, but how do I ensure that a document downloaded and opened in Apple's Pages application isn't then saved to a user's personal [storage file] on that device [and then synced] to the cloud and other devices. Now it's out of IT's control."

being used by employees for business uses. "Instead of the company supplying the devices today, it has become BYOD—Bring Your Own Device," O'Leary says. It has created a cultural shift for IT departments, he says, because IT leaders have to relinquish some control of the devices and applications they are being asked to monitor.

How the IT department will approach managing the mobile cloud in the enterprise will depend on the department's overall role in the organization. You need to determine if IT

what it means to have business data on the mobile device," he adds. "There needs to be policy decisions based on employee- vs. employer-owned devices."

"We're moving into what has been labeled the 'post-PC era,'" says Unisys' Treadway. "As the mobile device market continues to innovate at this level, it is only a matter of time before the majority of access to corporate systems is through the mobile Web. Forward-thinking IT groups get this and are embracing the inevitable." □

Be Open To Using The Cloud

While it might be easy for enterprises to forbid use of the mobile cloud, John Treadway, global director of cloud computing solutions at Unisys (www.unisys.com), believes IT departments need to be more forward-thinking. "The wrong response is to build big walls and keep out the new technology," he says. "It's very powerful and liberating to bring only an iPad to meetings and never use paper notes and printouts. The velocity of innovation in the consumer mobile space is so extreme that many IT organizations understand that they cannot say No to the senior executives who are showing up with iPads and Android devices and expecting them to work."

Equipment Recycling & Disposal

Company

AnythingIT



Description

With a suite of IT asset management services, including testing, auditing, and DoD data destruction and processing, AnythingIT helps government and commercial clients deal with aging technology and the regulatory compliance issues involved with managing it. AnythingIT's consultants will perform an IT asset review and analysis that uses a fair-market evaluation of your current technology.

- Recycle Tomorrow program saves costs in the remarketing and recycling process
- Can process IT assets at multiple ISO 14001-certified facilities globally
- Offers custom-designed channel and non-channel programs for OEMs and integrators servicing both government and commercial clients
- Knowledgeable in disposal processing, data mining, and warehouse systems for IT assets
- Unparalleled past performance servicing public-sector clients
- Innovative trade-in and asset recovery programs

Best For: Government and commercial enterprise organizations that need help making cost-effective business decisions for IT storage, disposal, resale, donations, and recycling.

Apto Solutions



Apto Solutions can help you monetize downsized or liquidated assets, and the company can handle the sales process for you, including market research, valuation, collections, and shipment.

- Features compliance programs for environmental, export, data security, and electronic tracking issues
- Logistics management for recovery and consolidation to the Apto warehouse
- Inventory Management System lets you track the trade process
- Maximize return on investment through an extensive contact network and market knowledge

Best For: Companies looking for a recovery service with experience, credentials, and expertise in technology remarketing.

Data Media Source



DATA MEDIA SOURCE
www.datamediasource.com

Data Media Source buys used tape media, including LTO, AIT, and SDLT, and provides free data destruction, taking care of all the logistic and security concerns you have. Sold media can be turned into cash or exchanged for brand-new media.

- Provides value of the tape and details costs involved
- Tape is shipped with complete chain-of-custody documentation
- Tape is inspected and sorted—you'll be notified of completion
- Once inspection is complete, paperwork is processed for payment

Best For: Companies in the process of removing or renewing their tape libraries.

Company

Paragon Green



Description

Paragon Green can refurbish, reuse, and recycle all types of electronics, including PCs, copiers, and televisions, because of the company's zero-waste policy. All end-of-life electronics are recycled and processed within the United States.

- Equipment is refurbished with working components
- For equipment that can't be resold, the unit is broken down into separate components
- Hardware that's too old for resale is recycled for raw materials
- Data is removed using the DoD's standards

Best For: Enterprises that have a variety of electronics to remove and recycle.

Reclamere



Reclamere's experienced team works with you to develop a data security plan tailored to meet your data destruction, data recovery, and IT asset management needs. Reclamere's experts can also help you execute your legal responsibilities for each phase of the IT equipment life cycle, which helps protect your company, employees, and clients from data breaches.

- Certified data destruction
- IT asset management for safe and secure preparation of electronic equipment
- IT audit and assessment to evaluate a company's risk level
- E-discovery and litigation support to recover information from hard drives for legal procedures

Best For: Enterprises most concerned about the security of outdated IT assets.

Recycle Your Media



Recycle Your Media has a proprietary system for fully erasing data tape media cartridges. The process erases each tape from pin to hub with a magnetic degauss power that's 10 times stronger than DoD degaussing standards. Recycle Your Media offers premium pricing paid now on the following media formats: DLT VS160, 3592, T10000 T10K, LTO-4, AIT-4, AIT-5, VXA X-23 tapes, all brands.

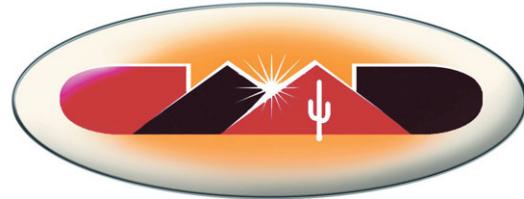
- 100% full-length, pin-to-hub erasure for total security
- Recycle Your Media pays for tapes—no more costly shredding services
- Full chain of custody with a certificate of data destruction
- Volume serial reports
- Drive read/write data test and reset to blank tape, ready-to-write status
- Final quality assurance scan step to confirm full erasure, reset, and data integrity

Best For: IT staff who want a green alternative for recycling tape media that's out of its retention period and those who need full data erasure and reporting on every tape recycled.

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

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DMD Systems Recovery



DMD Systems Recovery works to minimize your risk and maximize your payback, so you'll get a solid return on investment without worrying about the possibilities of regulatory fines, bad publicity, or litigation from data theft on hard drives that weren't properly sanitized. DMD Systems Recovery offers data deinstallation, packaging, logistics, data destruction, recycling, and remarketing.

- Removal and packaging services to preserve value
- Increased ROI through direct purchase or profit sharing
- DoD 5220.22-M-compliant data wipe and NAID-compliant destruction
- Reduced risk through certificates of destruction and compliance and transfer of ownership

Best For: Data centers, call centers, and companies with large centralized operations.

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Frontier Computer



Frontier Computer has been in the business of helping companies plan, build, and maintain their IT infrastructures since 1976. The company buys used computer equipment, excess IT hardware, and enterprise-level IT equipment, including servers, workstations, peripherals, storage arrays, and networking tools.

- Buys excess new or used enterprise equipment
- Offers environmentally friendly end-of-life services for obsolete IT assets
- Works with Cisco, HP, IBM, and Sun hardware
- Global presence helps Frontier respond with speed to customer demands

Best For: Enterprises that want to sell their equipment to a company with decades of experience with IT hardware.

Intechra



Intechra focuses on data security and protecting clients from liability by leveraging technology, processes, and customized solutions into the right mix of end-of-life asset management and disposal services. Intechra's IT asset disposition offers waste-free, worry-free service, covering all steps of the process, including logistics, data security, and the demanufacturing and recycling of materials.

- Ultimate data security protection
- Environmentally compliant disposal
- Comprehensive remarketing, redeployment, and donation strategies
- Full indemnity against risk

Best For: Enterprise or global organizations needing a secure, compliant global IT asset disposal strategy.

Secure MDE



Secure MDE offers a guaranteed solution for end-of-life data. The Secure Shark high-capacity destruction service shreds media your company no longer needs—media that's full of sensitive data, takes up space, and causes you anxiety. Secure Shark can handle jobs of any size, anywhere in the country. Best of all, the process safeguards the environment by recycling 100% of all resultant material.

- Cost-effective: Eliminates labor costs of wiping, disassembling, or degaussing
- Secure: Onsite personnel can monitor the destruction process and verify the results
- Convenient: All destruction takes place at your site; Secure MDE can handle quantities of any size
- Environmentally friendly: Exceeds EPA, OSHA, state, and local environmental laws

Best For: Organizations of any size that want to responsibly, securely dispose of end-of-life media.

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WeBuyUsedTape.net pays top dollar for your new and used tapes. WeBuyUsedTape has been in the business of purchasing new, used, excess, and surplus magnetic media for more than 35 years. It uses regulation-approved, secure data eradication processes and environmentally friendly disposal programs to give organizations a safe and economic incentive for recycling used media. No-obligation, confidential quotes on your tape media are available at any time.

- Simple process: Submit your list of media; receive a confidential, no-obligation offer within 24 hours; and ship your media to us.
- Processes meet HIPAA, Gramm-Leach-Bliley, Sarbanes-Oxley, and other regulation requirements
- Data Destruction Certificates document your transaction and provide proof of complying with recycling and data eradication processes

Best For: Enterprises needing a secure way to dispose of new, used, excess, and surplus magnetic media.

Contact: (800) 821-1782 | www.WeBuyUsedTape.net

World Data Products



World Data Products has partnered with Shred-It to provide a drive- and media-shredding service. Using Shred-It's specially engineered, state-of-the-art shredding machines, World Data Products can pulverize hard drives and tape media into tiny particles, making it impossible for others to restore the data and safeguarding your organization against vulnerabilities from stolen payroll, personnel, and customer information.

- Services available for hard drives, backup magnetic tapes, floppy and Zip diskettes, and optical media
- Drives and media can be destroyed onsite or at one of Shred-It's facilities
- Drives are recycled or disposed of per EPA standards and local and state laws
- Certificate of destruction verifies the job has been securely completed

Best For: Enterprises in need of secure destruction of sensitive company and customer data on hard drives and other media.

Nortel Patent Buyout Approved

Courts in the United States and Canada have approved the sale of more than 6,000 Nortel patents to a consortium of companies for \$4.5 billion. The group of buyers, which includes Apple, Microsoft, RIM, EMC, Ericsson, and Sony, won an auction for the patents on June 30 as part of Nortel's bankruptcy proceedings. The patent portfolio covers wireless, data transfer, voice, Internet, optical, and semiconductor technologies, among others. Google made a \$900 million opening bid for the patents in April, and Intel also placed bids. The sale means that Nortel, which declared bankruptcy in 2009, will have more than \$7.5 billion to cover its debts.

SAP Seeks New Trial In Oracle Lawsuit

SAP was expected to argue for a new trial and a reduction in the \$1.3 billion award it was ordered to pay in a lawsuit with Oracle. Oracle sued SAP in 2007 when it found that SAP subsidiary TomorrowNow had illegally downloaded software and support materials from an Oracle Web site. TomorrowNow admitted wrongdoing, and the trial was to determine the amount SAP was to pay Oracle. SAP says the award is excessive and wants the court to use a different methodology to determine damages, which SAP says should be between \$28 million and \$409 million. Oracle opposes a new trial and says the evidence supports the jury's award.

Cybercriminals Using Low-Volume Attacks

A recent report from Cisco, titled "Email Attacks: This Time It's Personal," found that cybercriminals have shifted from high-volume attacks to low-volume attacks that are targeted at specific users. Email is still the primary way the cybercriminals attempt to reach targets, but the so-called spearphishing attacks will be highly personalized. Companies will need to train users on how to identify dangerous messages and to avoid clicking URLs that could lead to a compromised Web site. Organizations should also focus on creating a highly distributed security architecture that features firewalls, Web proxies, and intrusion-prevention sensors.



Study Looks At Connections Between Driving While Texting Bans, Accidents

Currently, 34 states and the District of Columbia have laws that ban texting while driving. A recent study from the HLDI (Highway Loss Data Institute) found that the bans did not reduce collision claims involving texting, but rather, accidents were higher in states where texting was banned. The report indicates that the increase in collisions may be because of people hiding their phones from view while texting, which could require a longer glance away from the road. In 2009, there were nearly half a million injuries caused by distracted drivers. The report found that there was no solid evidence that cell phone bans reduce crashes, injuries, or fatalities.

Colocation & Data Center Redundancy

Choose The Ideal Locale & Provider

by Chris MacKinnon

IF YOU'RE LOOKING FOR enhanced security or business continuity for your data center or a cost reduction on IT equipment, having either a second redundant data center or enlisting a colocation provider is making sense these days to many small to midsized enterprises. But colocation providers seem to be located almost anywhere, so how can you know what locale is most ideal for your organization? Here, we look at some guidelines you can follow when deciding where your colocation provider or redundant data center will be located.

The Main Reasons

Jason King, sales engineer at Cybercon (www.cybercon.com), says enterprises are looking for redundant data centers mainly for business continuity reasons. "Having only one data center location breaks the age-old rule of 'don't put all your eggs in one basket,'" King says. "Over the past 10 years, we have seen numerous natural disasters that have leveled buildings and even entire cities (floods, earthquakes, tsunamis, etc). Having a single data center is a recipe for business disruption. No matter how skilled and well-run a data center operation is, many different 'acts of God' can simply shut that operation down and leave your equipment irretrievable or destroyed."

According to Jordan Jacobs, director of corporate strategy for Phoenix NAP (www.phoenixnap.com), enterprises are looking for colocation providers for reasons similar to why someone looks at a server company to build their servers for them. Jacobs explains, "The business owners can focus on their core competencies and day-to-day operations and rely on expertise and economies of scale of hosting organizations to support critical IT needs." He says redundancy is a major factor because businesses cannot afford to be offline or lose any of their data.

The Best Locale

Knowing what locale is the most ideal can depend on several factors, says King. "A business must look at their budget first and foremost," he says. "Because of this, the ideal locale depends on the data center they can afford. Beyond this, businesses should consider how prone the location is to natural and manmade disasters. When you consider current Internet speeds, as long as the data center has top tier, response times should be less of a concern when compared to risk factors involving the location and the probability of disasters."

Jacobs says it's more about disaster avoidance than specific location. "For instance, if you have a business in LA, you would want a data center location in another city to safeguard against any disruptive events in the city or area where your home office resides," he explains. "Now, some businesses may need to

Key Points

- Having one data center is a recipe for business disruption. Natural disasters and other unexpected situations can simply shut an operation down and leave equipment irretrievable or destroyed.
- The need to physically access IT equipment is often offset by important considerations related to the data center's location. The two most important factors related to a data center's location are speed and security.
- There is no minimum size for colocation to be viable. Any office with a server can benefit from colocation solutions—that is, having its data safe and protected in a facility designed specifically for housing data.

be close to their data, if they are running virtual machines or something, but for the most part, distance is not a significant limiting factor when it comes to data transfer. It really gets down to which location makes the most sense for a given business."

Another aspect to consider, Jacobs says, is when a business is looking for a disaster recovery location. He says there are certain areas of the country (for example, Utah, Denver, and Phoenix) that are ideal for disaster recovery because they have a low occurrence of any natural catastrophes. "A lot of people will also include Las Vegas in that group; I just feel the potential for any disruptive attack or incident is higher there," he says.

John Thompson, COO at Netriplex (www.netriplex.com), says when considering the ideal locale for IT assets, some businesses think near is better than far. However, that is mostly untrue, in Thompson's opinion. "The need to physically access your servers and other IT equipment is often offset by more important considerations related to the data center's location," he says. "If a data center offers remote hands and eyes, a company's own IT personnel may never need to physically touch the equipment once it has been racked in the data center. The two most important factors related to a data center's location are speed and security."

Thompson says if a data center can give you the "speed" you want (affected by a number of issues), then its proximity

and connectivity to the Internet backbone, to your customers, and to your other connection points is good. And if a data center is "secure" from both natural and manmade disasters, he adds, then it's in a great location.

The Guidelines

In Jacobs' opinion, when you select a provider or location, figure out what your risk tolerance is and choose a data center to match it. "Don't always assume you need the most risk-tolerant data center in the world, as different applications have different levels of tolerable risk," he says. "Also, consider distance and the impact, or non-impact, it would have. For example, a data transfer from Atlanta to Phoenix may take 54 milliseconds. If the data center and business were both in Atlanta, that time might be 2 milliseconds. However, for many Web pages, is 54 milliseconds too slow? Does it make that big of a difference?"

Jacobs also says there is no minimum size for colocation to be viable. He says any office with a server can benefit from colocation solutions, as it can receive all the benefits of having its data safe and protected in a facility designed specifically for housing data.

Reading reviews or complaints about the facility you are interested in can also help, King says. "Find out how long they have been in business," he adds. "And deal only with operations that are staffed 24/7 and call them at 3 a.m. to see how quickly they answer. Also, don't use a data center that relies on a single network provider. A data center should have Internet connections from at least two different providers for redundancy." King says you do not want to be at the mercy of a single Internet provider.

Jonathan Hoppe, president of Netriplex, says organizations must ensure redundancies in all areas (power, cooling, network, etc.) and investigate a provider's level of attention to detail. "Inquire about audits and certifications such as SAS 70 Type II or SSAE 16 where an independent auditor has verified what they say they do," Hoppe says. "More importantly, ask to see the audit report and investigate what is contained in any audit. A data center could obtain a SAS 70 Type II certification for doing one thing that is not even related to the data center." Hoppe says at the end of the day, clients need to gain confidence in their choice of a provider. □

The Case For Colocation

Stuart Dodson, director of marketing with Netriplex (www.netriplex.com), offers the following reasons why companies enlist in a colocation provider:

- To greatly improve compliance, security, and availability
- For higher-performance and global distribution placed closer to end users
- To focus IT budgets and expenditures more strategically
- To diversify and spread resources over multiple vendors/locations to increase resiliency

Data Center/IT Training

Training Center

Global Knowledge



Global Knowledge

Description

Global Knowledge is the worldwide leader in IT and business skills training. The company delivers courses via training centers, private facilities, and the Internet, letting customers choose when, where, and how they want to receive training programs and learning services. Global Knowledge specializes in high-quality, hands-on data center training courses that are delivered by accomplished cross-domain experts. Instructors are certified Cisco Systems and VMware Certified instructors with real-world experience. The company's broad-based data center curriculum includes VMware, Cisco, Sun, IBM, Red Hat, and Microsoft courses as well as other subjects.

- Learn from experienced instructors and award-winning curriculum
- Engage with custom hands-on labs and exercises
- Choose from robust delivery options
- Train a local group or a dispersed workforce
- Select from more than 1,200 courses

Best For: IT training for the individual or for the enterprise organization that requires skills development or certification.

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NetCom Information Technology, headquartered in New York, has training centers located in 18 states across the country and offers training solutions for more than 1,000 technical, application, and project management courses to Fortune 500 companies, businesses, government agencies, and individuals. NetCom's subject matter experts provide authorized hands-on education in the latest technologies from leading vendors, including (ISC)2, Adobe, Autodesk, Check Point, Cisco, Citrix, CIW, CompTIA, EC-Council, Microsoft, Novell, Oracle, PMI, and others. NetCom is an authorized testing center for Sylvan Prometric, VUE, and Certiport. The company is also a New York and New Jersey Workforce Training Provider and a licensed school registered with the New York State Education Department.

- Provides world-class training and certification preparation for the most in-demand computer technologies
- Offers authorized career training classes in Microsoft, Cisco, Adobe, PMI, Autodesk, Oracle, Novell, CompTIA, and more
- All courses and boot camps are hands-on, led by certified instructors using the latest equipment
- On average, NetCom instructors have 11 or more years of experience in the subjects they teach
- Curriculum options aimed at helping students become Web site developers, database administrators, computer programmers, graphic designers, security specialists, and project managers
- In the last decade, NetCom has delivered training to thousands of individuals and corporations

Best For: IT, security, and project management training for beginners and also for experienced staff looking to enhance their careers or enter a new market.

Training Center

TechSkills



Description

TechSkills is a nationally recognized leader in education delivery, specializing in skills and certification training for careers in information technology, healthcare services, and business. TechSkills' teaching methodology combines elements of traditional instructor-led education, the latest online learning tools, and extensive hands-on skill-building to create an effective and efficient learning process. Students control what they learn, when they learn, how they learn, and how rapidly they progress. Based in Austin, Texas, TechSkills operates more than 25 campuses in 16 states. TechSkills campuses are licensed in each state in which they operate, and select TechSkills campuses are nationally accredited by the Accrediting Council for Continuing Education & Training.

- Offers personalized programs that include morning, afternoon, evening, and weekend classes; online and on-campus study options; intensive small group "microlab" training sessions; and the latest online learning tools
- Course customization lets you skip what you already know and progress at your optimal speed
- Hundreds of hands-on lab activities to provide real-world experience
- Online access 24/7 lets you work through on-the-job scenarios in real time
- More than 90% of TechSkills' students pass their industry certification tests on their first attempt; if you don't pass your certification test the first time, TechSkills will pay for one retake for every successfully completed course
- Job placement assistance that includes personal coaching, help with résumés, and career development workshops
- Multiple programs, including Microsoft, Cisco, Oracle, and IT security certification

Best For: Students seeking certification in IT, technical, or business areas.

United Training



Actually a consortium of independently owned training centers, United Training concentrates on helping its members provide high-quality IT training from regional providers. Since 2000, the company has been delivering training nationally and developing strategic relationships with manufacturers and vendors of IT-related products and services. The company's goal is to provide quality training throughout North America on any IT training product, anywhere, and at any time. United Training offers in-class, private, and mobile classroom training options, and many members offer Web-based virtual classrooms. United Training regularly offers free Webcasts. In addition to the typical communication channels, members and students can comment on and communicate with the company via Twitter and Facebook.

- Microsoft Gold Certified Partner
- Courses offered in most states and in Canada
- Hundreds of courses offered in more than 50 technology areas, including Web development, programming, CRM, SQL Server, and Exchange
- Many courses offered for Cisco, MCSA/MCSE, and other certifications

Best For: IT staff seeking basic or advanced certification in multiple areas and employees needing introductory coursework in popular business applications.

Centers

New Horizons Computer Learning Centers



With more than 320 locations in 70 countries, New Horizons is the world's largest independent IT training company. For the past 29 years, the company has delivered a full range of IT training and certification and business skills education. The company has helped more than 25 million students and offers courses in hundreds of locations around the world.

- 320 New Horizons locations worldwide, specializing in Microsoft and Cisco products and technology
- Cisco's North American Learning Partner of the Year for 2009-2010
- Microsoft's largest worldwide training partner
- Flexible training: mentored learning, instructor-led classroom, and online
- The only provider with Mentored Learning capability that gives you all the benefits of an instructor while learning at your own pace
- More than 90 authorized Cisco locations in the United States
- Local centers, instructors, and customer service teams that tailor learning paths specifically to your business/career goals

Best For: New and experienced IT staff, including experienced Microsoft technical staff looking to cross over into Cisco routing, switching, and voice products, and those seeking additional ways to increase their marketability. Also ideal for help desk professionals looking to improve their skills and enhance their career options.

Contact: (714) 940-8000 | www.newhorizons.com

Unitek Education



Unitek Education is the only IT training company in the world to have won Learning Partner of the Year awards from five different IT market leaders. Microsoft, Citrix, CompTIA, and Red Hat have all acknowledged the company's relentless drive for training excellence. Unitek is a learning partner for Microsoft, Citrix, Cisco, CompTIA, Red Hat, and NetApp and is the only company in the United States to have achieved the dual status of Microsoft Gold Partner for Learning Solutions and Cisco Learning Partner. The company provides multiple learning modalities, including the Smart classroom, which enables students to experience all the benefits of a live instructor-led class from the comfort of their homes or offices. Unitek's accelerated "boot camps" are aimed at teaching specific skills, tools, or technologies in a short period of time in a zero-distraction environment. Unitek is an authorized Prometric testing center, operating multiple exam sites in Fremont and Sacramento, Calif.

- Courses offered in multiple locations as well as online
- Onsite training available
- Courses offered for both end users and corporate administrators

Best For: IT staff seeking basic or advanced certification in any of several areas: Microsoft, Cisco, NetApp, Red Hat, Citrix, Linux, and others.



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McAfee President Steps Down

Intel's McAfee president, David DeWalt, has resigned but will retain his position as a member of McAfee's board of directors. In February, Intel acquired McAfee for \$7.68 billion or \$48 per share. The security company will appoint Michael DeCesare and Todd Gebhart as co-presidents in August or September. Currently, DeCesare serves as executive vice president of global operations; Gebhart has been in charge of developing Web sales strategies to expand several units within McAfee. Industry sources are reporting that DeWalt could accept a position as CEO of Palo Alto Networks.

Data Shows Verizon's Growth In iPhone 4 Market

Mobile app analytics company Localytics released new data about the national iPhone 4 market. According to the data, Verizon has made a good showing by grabbing 32% of the market. AT&T has 68% of the market share. According to Localytics, Verizon has seen consecutive monthly jumps this spring, while AT&T's share has gradually declined by almost 13% in the past six months.

Localytics says that the recent uptick could be because of Verizon's unlimited data plan, although this plan ended at the beginning of this month, and that Verizon's market share increase might be a foretaste of what will happen when the iPhone 5 launches.



IT Workers File Suit Claiming H-1B Discrimination

Eighteen former IT employees of California company Molina Healthcare have accused the company of violating California anti-discrimination laws, claiming Molina laid them off in favor of a number of H-1B workers from India. In the suit, the IT workers claim that they were marginalized and excluded from decision-making processes while their Indian counterparts were catered to and in some cases promoted ahead of the American workers. The plaintiffs allege that they were laid off in order to make room for more H-1B workers and are charging Molina with discrimination based on national origin, among other charges. For its part, Molina asserts that the legal action is "grounded in falsehoods and malicious gossip."

IT Layoffs Slowing

Despite increases in the number of companies in the United States downsizing in the past couple of months, the overall midyear pace of layoffs is the lowest since 2000, according to global outplacement consultancy Challenger, Gray & Christmas. There have been 245,806 announced layoffs thus far this year, with the state of California and the government sector taking the brunt in their respective categories. IT-related sectors fared better than many in the midyear job cut tally, including Electronics (14th), Computer (16th), and Telecommunications (20th). They also ranked high in announced hiring plans with Electronics in first place, Computer in second, and Telecommunications in fourth.

Open vs. Closed: The System Debate

How The Systems Landscape Is Changing To A More Open View

by Christian Perry

• • •

OPEN-SOURCE SYSTEMS HAVE MADE major enterprise inroads over the past decade. Once a conversation that sparked little more than raised eyebrows, the debate over closed vs. open systems is now crucial for businesses and other organizations looking not only to get the biggest bang for the buck, but also the best system for their environments.

"Enterprises should review their business needs and then pick the solutions that

Years ago, closed systems represented the predominant choice for enterprises, but the tide is turning as organizations recognize the benefits inherent in open systems. "The problem with a closed, single-vendor solution is that you must depend solely on their innovation for improvements, and innovation cannot be limited to one company. Open-source systems allow for more choice and give smaller vendors the ability to reach larger markets, benefiting greatly from economies of scale for greater diversity and development," says Tom Packert, CTO at CareCloud (www.carecloud.com).

Even for organizations that prefer to develop their own systems and write their own code, open-source systems can prove useful, Packert adds, because businesses can build on top of what's already been created. One of the foundations behind the open-source movement is the constant improvement and evolution of current system versions, and enterprises can take that concept directly in-house and improve or change an open system to match their particular needs. Open systems also give organizations the opportunity to pick and choose from today's most innovative technologies without the worry of vendor lock-in.

"Technology is evolving faster than ever before, and open systems give enterprise IT departments the flexibility to keep up," Bomgar says. "IT can't be completely dependent on one vendor to keep up with all of the technology changes and needs within their organization. Think about it from a mobile perspective. Many employees are now demanding to use their own smartphones and tablets in the workplace, essentially eliminating IT's ability to have a closed system."

To accommodate that influx of devices, IT departments might need a variety of tools and solutions to handle the necessary integration, control, and security. Dave Laurello, CEO of Stratus Technologies (www.stratus.com), adds that closed systems can make leaving the platform painful and costly for customers, and those that stay might be forced to pay for upgrades, new features and functions, and maintenance that could be above the market norm.

Open For (Risky) Business

Although the trend toward open systems is undeniable, caveats remain entrenched

in the concept. The lure of free (or semi-free) might tempt organizations to dive into open systems without performing thorough research, but these caveats are common enough to force potential users to investigate before deploying. The good news is that downsides to open systems tend to be manageable if enterprises know what to expect.

"Enterprises may encounter software licensing issues and less vendor accountability for the product, so [they] may be required to assume responsibility for their own system issues," Packert says. "However, open source means that more eyes are on every piece of code for a more extensive peer review, which will lead to better code and better software. The open-source system gives enterprises greater access to code and the experts that create it."

Organizations that use open systems tend to have multiple products in use. These mixed environments can be problematic when an issue occurs with a particular product, Laurello notes, because vendors aren't always willing to admit there's a problem with their particular product when it's used with other products. However, if the customer can manage to extract a service-level agreement from a supplier that's solid and holds the supplier accountable, problems can be more easily solved when they appear. Obtaining a solid grasp of deployment challenges and issues can also help ease the introduction of open solutions into an enterprise environment.

"When you're using different best-in-breed solutions from a variety of vendors, there will be integration challenges," Bomgar says. "The best thing enterprises can do is to select solutions that have integration packages and services that can help smooth the process, as well as build in time for integration during deployment."

Of course, security is an ever-lingering concern among organizations using open systems. After all, code that's available for anyone to examine and manipulate means that it's available to cyber criminals who search for vulnerabilities in the systems. Despite these concerns, Laurello says, open-system technologies are well-understood, and plenty of organizations are willing to take advantage of that aspect. With proper—and enforced—security procedures in place, businesses using open systems can protect themselves from intrusions, he says. □

Finding A Fit

Open and closed systems have qualities that can benefit organizations of almost any type and size, but certain customers might be better off with one or the other, according to Joel Bomgar, CEO and founder of Bomgar (www.bomgar.com). For example, he says that closed systems, or packaged solution suites, can make more sense for small businesses that are limited by budget and resources to manage multiple solutions.

"But large enterprises are dealing with a variety of business units with different requirements, mergers and acquisitions, and different needs across geographic locations," he says. "So they need to have an open and flexible IT environment that allows them to integrate different systems, applications, and devices."

What To Look For In A Dealer

When Buying Used Or Refurbished Gear, Using A Reputable Dealer Is Vital

IN THE RETAIL WORLD, a popular advertising tag line is "Why buy new when slightly used will do?" That philosophy also holds true in data centers and other enterprise-level environments, where companies are increasingly purchasing quality used or refurbished equipment in an effort to save money. But while buying refurbished equipment can result in significant cost savings, there are factors to be aware of before you go shopping for used gear, and chief among them is the vendor from whom you will be buying your equipment.

Do your homework. Make sure the company providing the used equipment has the means and the expertise to give you equipment that's either good as new or as close to it as possible.

"The key is to deal with someone who has the expertise to properly refurbish a piece of equipment," says Bob Houghton, president and CEO of Redemtech (www.redemtech.com). "A piece of equipment coming out of one environment is rarely ready to go directly into another environment. There needs to be cleaning and sanitizing,

including in many cases reconfiguring for the buyer."

Or, put more succinctly: "You don't want someone that just wipes the hard drive and sticks a new label on," says Ed Stukane, chief marketing officer at PlanITROI (www.planitroi.com).

To really cover your due diligence tracks, Houghton recommends running a Dun & Bradstreet credit report on the dealer before you buy any substantial amount of used equipment. "Make sure they've got the financial strength on the warranties they offer," he says. "If you're spending \$100,000 on used equipment, it's a worthwhile, minor expense. There are a lot of dealers who can't meet their obligations to buyers and just fade away."

Get references. As you research who's behind the equipment you're buying and how they're backing it up, Stukane also recommends getting in touch with previous clients. "Obviously, if there've been problems or complaints, that's something you need to take into account," he says. "If there's no warranty offered with the equipment, or if there's just a shortage

of information about the dealer, those are big red flags. Find out what their quality process is."

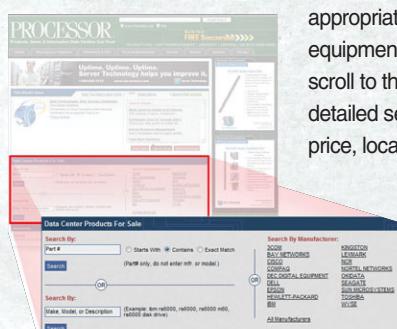
Follow licensing requirements. Fortunately, the refurbishment business has progressed to a state where there isn't a lot of equipment that can't be found used and at an OEM level of quality—or sometimes better. But, cautions Houghton, there are OEMs that make it impossible, by virtue of their software licensing policies, to get a good deal on refurbished equipment. A lot of resellers will try to sneak past these licensing policies, which could come back to bite you in the end, so it's important to find a reputable seller who stays to the right side of these requirements. "Make sure the equipment is fully licensed with the software it needs to operate," he says. **P**

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AUGUST

Data Connectors Denver Tech-Security Conference

Aug. 4
Denver, Colo.
[www.dataconnectors.com
/events/2011/08Denver/agenda.asp](http://www.dataconnectors.com/events/2011/08Denver/agenda.asp)

Central Plains ISSA

Aug. 5, 1 p.m.
Wichita Marriott Restaurant
9100 E. Corporate Hills Drive
Wichita, Kan.
issa-cp.org

AITP Research Triangle Park

Aug. 11
University Club
4200 Hillsboro St.
Raleigh, N.C.
www.rtp-aitp.org

Data Connectors St. Louis Tech-Security Conference

Doubletree Hotel & Conference
Center
16625 S. Swingley Ridge Road
Chesterfield, Mo.
[www.dataconnectors.com
/events/2011/08StLouis/inv_ex.asp](http://www.dataconnectors.com
/events/2011/08StLouis/inv_ex.asp)

AITP Oklahoma City

Aug. 16
aitpokc.org

AITP Southwest Missouri

Aug. 16
aitpspringfield.org

ISSA Northern Virginia

Aug. 18, 5:30 p.m.
issa-nova.org

AITP St. Louis

Aug. 25, 5:30 p.m.
Crowne Plaza Clayton
7750 Carondelet Ave.
St. Louis, Mo.
stlouisaitp.org

Data Connectors Pittsburgh Tech-Security Conference

Aug. 25
Pittsburgh Marriott City Center
112 Washington Place
Pittsburgh, Pa.
[www.dataconnectors.com
/events/2011/08Pittsburgh/inv_ex.asp](http://www.dataconnectors.com
/events/2011/08Pittsburgh/inv_ex.asp)

Search Optimization Series: Google Analytics

Aug. 31, 10 to 11:30 a.m.
New Horizons Cincinnati
10653 Techwoods Circle
Cincinnati, Ohio
tinyurl.com/nhcincinnati06-29

SEPTEMBER

Central Plains ISSA

Sept. 2, 1 p.m.
Wichita Marriott Restaurant
9100 E. Corporate Hills Drive
Wichita, Kan.
issa-cp.org

AITP Research Triangle Park

Sept. 8
University Club
4200 Hillsboro St.
Raleigh, N.C.
www.rtp-aitp.org

Data Connectors

Dallas Tech-Security Conference

Sept. 8
CHG Cityplace Conference Center
2711 N. Haskell, Suite 100
Dallas, Texas
[www.dataconnectors.com
/events/2011/09dallas/inv_ex.asp](http://www.dataconnectors.com
/events/2011/09dallas/inv_ex.asp)

Data Center World

Sept. 11 to 14
Orlando World Center Marriott
Orlando, Fla.
www.datacenterworld.com

AFCOM Central Texas

Sept. 15, 11:30 a.m. to 1:30 p.m.
Marie Callender's Restaurant
9503 Research Blvd.
Austin, Texas
[www.afcom.com/afcomnew
/CentralTexas.HTML](http://www.afcom.com/afcomnew
/CentralTexas.HTML)

Data Connectors

Washington, D.C., Tech-Security Conference

Sept. 15
Washington, D.C.
[www.dataconnectors.com
/events/2011/09WashingtonDC
/agenda.asp](http://www.dataconnectors.com
/events/2011/09WashingtonDC
/agenda.asp)

ISSA Northern Virginia

Sept. 15, 5:30 p.m.
issa-nova.org

SIM Minnesota

Sept. 15, 2:30 p.m.
Northland Inn
7025 Northland Drive N.
Minneapolis, Minn.
www.simnet.org

AITP Oklahoma City

Sept. 20
aitpokc.org

AITP Southwest Missouri

Sept. 20
aitpspringfield.org

AFCOM Central Texas

Sept. 22, 11:30 a.m. to 1:30 p.m.
Marie Callender's Restaurant
9503 Research Blvd.
Austin, Texas
[www.afcom.com/afcomnew
/CentralTexas.HTML](http://www.afcom.com/afcomnew
/CentralTexas.HTML)

AITP St. Louis

Sept. 22, 5:30 p.m.
Crowne Plaza Clayton
7750 Carondelet Ave.
St. Louis, Mo.
stlouisaitp.org

AITP Akron

Sept. 27
356 Fighter Group Restaurant
4919 Mt. Pleasant Road
North Canton, Ohio
www.akron-aitp.org/index.htm

Data Connectors New York Tech-Security Conference

Sept. 29
Bridgewaters
11 Fulton St.
New York, N.Y.
[www.dataconnectors.com
/events/2011/09NewYork/inv_ex.asp](http://www.dataconnectors.com
/events/2011/09NewYork/inv_ex.asp)

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New York, N.Y.
www.interop.com

Central Plains ISSA

Oct. 7, 1 p.m.
Wichita Marriott Restaurant
9100 E. Corporate Hills Drive
Wichita, Kan.
issa-cp.org

AITP Research Triangle Park

Oct. 13
University Club
4200 Hillsboro St.
Raleigh, N.C.
www.rtp-aitp.org

Data Connectors Columbus Tech-Security Conference

Oct. 13
Quest Conference Centers
8405 Pulsar Place
Columbus, Ohio
[www.dataconnectors.com
/events/2011/10Columbus/inv_ex.asp](http://www.dataconnectors.com
/events/2011/10Columbus/inv_ex.asp)

AITP Oklahoma City

Oct. 18
aitpokc.org

AITP Southwest Missouri

Oct. 18
aitpspringfield.org

Data Connectors Atlanta Tech-Security Conference

Oct. 20
Atlanta, Ga.
[www.dataconnectors.com
/events/2011/10Atlanta/agenda.asp](http://www.dataconnectors.com
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ISSA Northern Virginia

Oct. 20, 5:30 p.m.
issa-nova.org

SIM Minnesota

Oct. 20, 2:30 p.m.
Northland Inn
7025 Northland Drive N.
Minneapolis, Minn.
www.simnet.org

AITP Akron

Oct. 25
356 Fighter Group Restaurant
4919 Mt. Pleasant Road
North Canton, Ohio
www.akron-aitp.org/index.htm

AITP St. Louis

Oct. 25, 5:30 p.m.
Crowne Plaza Clayton
7750 Carondelet Ave.
St. Louis, Mo.
stlouisaitp.org

Data Connectors Memphis Tech-Security Conference

Oct. 27
Memphis Marriott
2625 Thousand Oaks Blvd.
Memphis, Tenn.
[www.dataconnectors.com
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*Do you have an event you'd like to see listed?
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DCIM Goes Mainstream: Sophisticated Management Leads To Data Center Efficiencies

BY ROD SCHER

LIKE ANY BUSINESS, your data center runs on information, and as the one in charge, you're expected to be able to lay your hands on that information. Can you? If the CEO asked you how many servers you had, where they're located, and how they're being used, would you know? Would you be able to tell execs how much power your servers are using, and for what? Would you know if a server were approaching its maximum heat threshold, or if you have enough power and connections to add more servers to an existing rack? How about adding additional racks—does your data center have sufficient space and capacity?

Many data center admins would be unable to answer some—perhaps most—of these questions, because, like other projects, data centers accrete layers of functionality as demands increase while resources dwindle. Instead of being meticulously planned, many pristine data centers become jury-rigged, make-do enterprises over time. Additionally, most data centers are understaffed, and admins can barely keep up with the existing load. They would love to be able to plan for the future, but that may be something for which they have little time. DCIM (data center infrastructure management) systems can help, says Info-Tech lead analyst Darin Stahl.

A Helping Hand

According to Stahl, new DCIM systems go way beyond simple monitoring of servers.

"DCIM can help not just with monitoring and sensors, but with analytics

leading to capacity planning," Stahl says. "Really, the goal is holistic, encompassing capacity planning and management."

Stahl points out that simply opening a cabinet door changes airflow and may raise temperatures; today's DCIM systems can note that change and, when integrated with load-balancing software, can shift loads to account for the extra strain on the servers in that opened cabinet.

A similar level of integration can ensure that the tech who swiped his card to enter a server room is only allowed to open cabinets appropriate for his current task; other cabinets remain locked, and DCIM manages and reports on who is doing what in which cabinets.

Not everyone needs sophisticated DCIM systems. Stahl notes that smaller centers may not benefit enough to justify the expense. But if you're building a new center or retrofitting an older one, DCIM capabilities may come with your new equipment, regardless. And

sophisticated sensoring can result in huge energy savings: On the low end, says Stahl, adequate sensoring and good management can combine to save 15% or more of your cooling bill simply because, with sensors in place, you have the opportunity to run hotter—that is, closer to the edge—and still maintain a safety envelope because sensors will warn you if a rack or a server begins to approach a heat threshold.

Working Together

One big issue in IT has always been the division of organizational domains: networking, facilities, systems, etc. Often on separate budgets and possibly under separate management, the division fosters a disconnect among the shareholders—DCIM is partly aimed at addressing this disconnect.

"The new technology allows IT folks to be better and more precise at their jobs," Stahl says. "Because there are power distribution or cooling sensors right at the rack, now I'm not relying on the facilities guy. It becomes an IT issue."

The worst thing you can do, according to Stahl, is to run out and buy

the coolest-looking thing, because you could end up with a DCIM system that does not integrate well with your other infrastructure. The secret is to use a qualified integrator, he notes: "Gather your requirements [and] figure out your immediate needs. Have a vision for your future. Then involve the integrator to make sure you get the system you need." □



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